

The BRITISH JOURNAL of TUBERCULOSIS

EDITED BY

T. H. R. L. WACK, M.D.

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Vol. XXIV.

October, 1930.

No. 4.

ORIGINAL ARTICLES.

THE INTERNATIONAL WORK-CLINIC FOR INDIGENT PATIENTS SUFFERING FROM SURGICAL TUBERCULOSIS.¹

By A. ROLLIER,
M.D.,

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Heliotherapy at Leysin, Switzerland.

THE Work-Clinic at Leysin is an hospitable establishment intended for the care of cases of surgical tuberculosis and where the work-cure is systematically carried out in the same way as is the sun-cure. The establishment is reserved for needy patients of both sexes and without distinction of nationality, placing at their service all the necessary installations essential for the effective conduct of heliotherapy. The clinic will provide a complete technical organization for the carrying-on of industrial, hygienic, and remunerative work.

I will endeavour to indicate briefly what has led us to combine this new therapeutic agent with our long-approved sun-cure. The idea of a work-cure applied to bedridden patients might at first appear bold or at least paradoxical. How, one might say, is it possible to introduce in a methodical manner regular and remunerative activity into the programme of treatment for invalids afflicted with such serious complaints as tuberculosis of the spinal column, of the hip, the knee, or the peritoneum, where general immobilization is generally considered to be the fundamental rule? This objection quickly disappears when we learn to what extent heliotherapy has revolutionized ideas previously held with regard to the treatment of tuberculosis of the bones and joints.

Since it was the sun-cure that led us to realize the efficacy of the

¹ This paper is based on an address delivered by Professor A. Rollier at the opening ceremony of the International Work-Clinic at Leysin, June 9, 1930.

work-cure, it is necessary—in order to understand how the latter came into being—to know a little regarding the healing power of the sun for those cases of tuberculosis which are generally called “surgical.”

The epithet of “surgical,” which has been so wrongly applied to certain forms of tuberculosis, recalls the time when surgery was considered to be the only means of relieving this class of lesion. It was then believed that the external sores caused by the tubercle bacilli in one or the other part of the body constituted a local disease capable of being rooted out by the surgeon's knife just like a simple tumour is dealt with.

The heliotherapy of external tuberculosis is based on a more exact knowledge of its pathogenesis and on a fundamental conviction, affirmed from the very beginning of our activities, that it is not a local disease calling for a local treatment, but a general disease necessitating general treatment. On one side we have the germs of tuberculosis and on the other the struggle that the organism is putting up against the infection.

Of all infective diseases, surgical tuberculosis is indisputably the one where the “soil” plays the principal part, as the destructive influence of the tubercle bacilli can only be exercised when the natural resistance of the patient is undermined. Therefore, the rational treatment of tuberculosis consists, primarily, in a reconditioning of this “soil,” in stimulating the resistance of the organism, in intensifying the whole vital activity of the individual, and this not only on the physical side but also on the moral side, the two elements in an individual's make-up being inseparable.

In order to fulfil the necessary conditions here indicated we have, for the last twenty-seven years, advocated heliotherapy, not locally, as previously practised by members of the Lyons School and Dr. Bernard in Samaden, but generally; that is, applied methodically to the entire body so as to bring all its tissues again into close contact with the two natural regenerators of life—fresh air and sunshine. This general and systematic exposure of the body to the sun proved itself to be the most stimulating change, and a pre-eminent regenerator of the blood and the humoral centres. It reconstituted the bodily structures, allowing their various physiological functions to play their integral part, so forming the most admirable defensive system of the human organism. It even leads to reconstitution of the muscles, those natural levers of the joints, developing them to such an extent that they seem to ask to be exercised by work.

The sun's rays exercise a remarkable recalcifying action on the whole structure of the bones, and, when associated with rational orthopædics, proved to be the most excellent treatment for osteo-articular lesions. Heliotherapy, in addition, has a wonderfully soothing



FIG. 1.—THE INTERNATIONAL WORK-CLINIC AT LEYSIN.

The illustration shows the entrance and north side of the building.

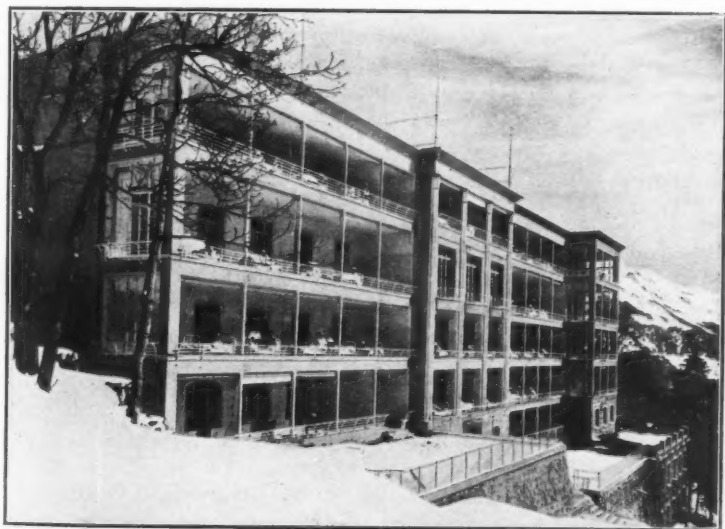


FIG. 2.—THE INTERNATIONAL WORK-CLINIC AT LEYSIN.

The illustration indicates the south aspect of the building with the rooms and balconies for sun cure and work.

effect on the psychic condition of patients, the beneficent light of the sun generally giving them a sense of intimate and profound well-being, a kind of expansion of the whole individual.

But even in the mountains there are sunless days; when the rain seems to penetrate into the very heart of a patient. Besides, the most radiant sunshine is not enough to raise the spirits of those patients in poor circumstances who are too often haunted by the terrible anguish inflicted upon them by their enforced idleness; haunted, too, by the thought of the home they have had to leave, of those they have left without resources, and by the painful thought of becoming a burden to their family and friends.

In order to bring moral help to these invalids suffering from a double misfortune, and to afford them pecuniary aid, we have combined the work-cure with the sun-cure. It is always adapted to the individual, carefully regulated, and medically controlled just as is the case with heliotherapy, but it has the advantage over the latter in that it can be carried out in all weathers. By the efficacy and continuity of its action, it has proved itself to be a therapeutic factor of threefold value, physical, moral, and economic, and it is now being recognized as the indispensable collaborator of the sun in all our popular clinics.

Like the sun-cure, the work-cure is nothing more nor less than a return to a natural law which is at the same time a divine commandment: "Six days shalt thou labour." The organism which is regularly subjected to the twofold influence is not long in reaping a twofold benefit. Manual work, carefully dosed, constitutes the physiological exercise *par excellence*, the one which best promotes active circulation—and circulation is life. It regulates thermogenesis, restores the balance of the nervous system, improves the general condition, increases its resistance to disease, and stimulates in its turn assimilation throughout the entire metabolism.

But the wholesome effect of work is not limited to the muscular and physical spheres of activity. Its dual rôle is marked and includes particularly an undeniable moral influence of which we cannot too strongly emphasize the importance.

The moral factor, which plays so important a part in the patient's fight against disease, and particularly tuberculous disease, has been too long disregarded. And yet this problem inevitably presents itself. In nearly every case the tuberculous patient whose malady is of long duration is affected not only physically but psychically.

Nothing is so demoralizing for an active and intelligent individual as the feeling of being placed, through disease, outside the activities of a normal life, incapable of playing the part assigned to him or to her in the great work of human fellowship. I know quite well that if circumstances reduce a man to inaction there still remains for him the

FIG.

FIG. 4.—

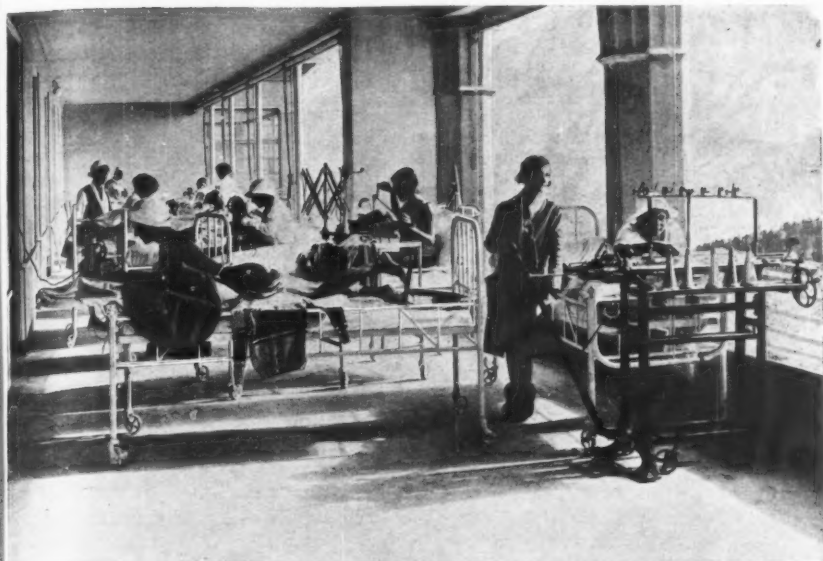


FIG. 3.—THE WORK-CLINIC AT LEYSIN: WOMEN AT WORK ON BALCONIES WHILE UNDERGOING THE SUN-CURE.

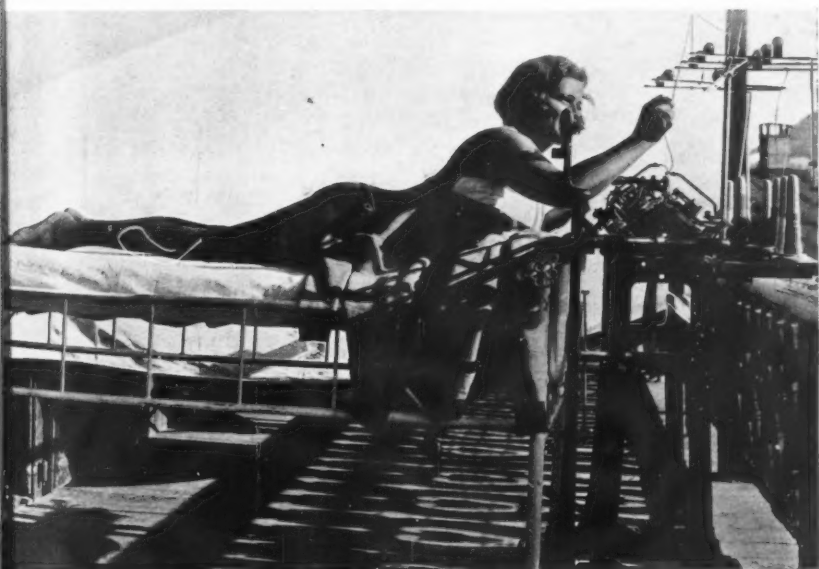


FIG. 4.—THE WORK-CLINIC AT LEYSIN: A FEMALE PATIENT ENGAGED IN KNITTING BY MACHINE WHILE UNDERGOING THE SUN-CURE.

possibility of activity in a purely mental sphere. I do not wish to underestimate the value of this—on the contrary, for I am convinced of the marvellous mission which can be exercised by an invalid in the realms of thought. But how are the patients to understand this and devote themselves to it? How many of them, in suddenly being called away from the too restless life of business or factory where they can earn their livelihood, are prepared to give themselves up willingly, during the long periods of inaction, to silent meditation or thorough self-communication, to the enriching of their spiritual life?

With these patients the idle mind too often escapes into the past, wears itself out in vain regrets or in fruitless distractions which leave behind them bitterness and boredom. Now, with these cases who are at grips with the problem of their future, and who are suffering mentally, boredom often creates a deplorable psychical condition. "Boredom," wrote Dr. Vigné, "is a serious disease, although it does not appear in pathological dictionaries, and does not produce of itself any perceptible lesions. It is particularly a disease of the will, that great faculty which ceases to function when it has no aim. Now, boredom is the result of inaction, and, forming a vicious circle, it tends to a continuance of inaction. By destroying the will-power, boredom is the forerunner of every breakdown, because in tuberculosis, more than in any other disease, success is often a question of potential nervous energy, and there must be in the patient an unceasing 'will to cure.'"

Regular employment, carefully regulated according to the condition and strength of the patient, causes a miraculous transformation in him. It renders the inestimable service of bringing him again into the natural order of things from which disease has withdrawn him. It is an infallible weapon against boredom. As the patients are influenced individually and methodically by the work-cure, they become aware of the gradual return of their strength, and soon experience that comforting sensation which is a result of the normal functioning of the organs and the adaptation of the human motor to work. On the day when the patient, emerging from that apathy which threatened to engulf him, sets bravely to work, the necessary collaboration of brain and muscle constitutes for him the best counter-irritant; his mood changes, while, through a natural reaction, his physical condition improves. The invalid-workman soon ceases to suffer from a sense of his own uselessness. He becomes aware of his own worth, and is raised in his own eyes by the ennobling effect of work. As the mental outlook improves, so the soul in its turn expands and develops in response to interior revelations, and thus is realized that harmony of mind and body which is like a reflection of the divine Spirit.

Another advantage of the work-cure, which is especially appreciated by patients in poor circumstances, is the financial aid it procures for

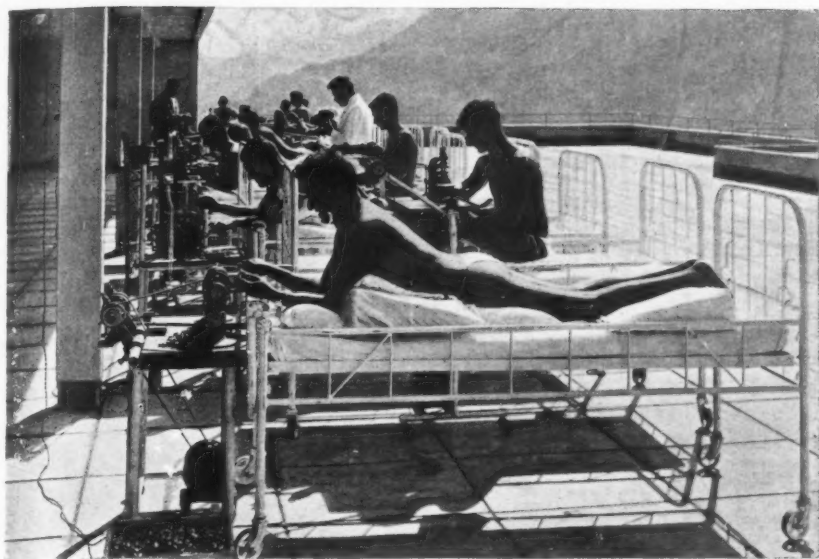


FIG. 5.—THE WORK-CLINIC AT LEYSIN: INDUSTRIAL WORK CARRIED OUT IN THE OPEN AIR AND UNDER EXPOSURE TO THE SUN.



FIG 6.—THE WORK-CLINIC AT LEYSIN: HELIOTHERAPY AND INDUSTRIAL WORK ON A BALCONY.

them. The long treatment necessary for cases of tuberculosis of the bones raises the serious question of expense. The interruption of professional activity brings with it for most of the patients the loss of their regular salary. During the long months and years of illness one must live and one must support one's dependants. If personal means are not enough to meet the situation, the patient is faced with a terrible dilemma: either he must interrupt the treatment already begun and which promised a cure, or he must prolong this treatment and thus fall into debt, unless he is helped by some insurance or anti-tuberculosis league. But the resources of these societies are not inexhaustible, the more so as the number of invalids needing help grows in an alarming manner. This is where the social and humanitarian value of the work-cure, when applied methodically to necessitous patients, is abundantly proved. Regular and remunerative employment, carefully adapted to the physical condition of the invalid-workman, will help to solve this distressing social problem, if not wholly, at any rate in part.

It is unnecessary for me to give you here an account of the work-cure as it has been practised in our clinics at Leysin since 1909, and particularly in our so-called popular clinics. A visit to our work-clinic affords a demonstration of the numerous applications of occupation-therapy and its special adaptation to the various localizations of surgical tuberculosis, both for convalescents and bedridden patients. Our patients produce an infinite variety of useful articles, indicative of their skill and care and talent as well as pleasure in their work. But there are difficulties to be met in carrying out a work-cure—stocks accumulate in the clinics, and it is not easy to dispose of goods, in spite of the help of anti-tuberculosis societies and the general sales periodically organized at Leysin and elsewhere. These growing difficulties raised another problem—either we had to lower our output, and consequently risk a decline in the spirits of the patients, or we had to find some solution which would assure them regular work, and thus avoid the anxiety arising from perplexities as to the disposal of manufactured articles. It was then that we decided to construct a real factory-clinic, where invalids would have the advantage of a technical organization and industrial employment regulated in such a way that we should no longer be faced with the task of disposing of manufactured goods, since on leaving our workshops they would be delivered direct to the firms that had ordered them. The realization of this project raised three problems: (1) The kind of industrial employment to offer to our workmen, who for the most part are bedridden; (2) the adaptation of tools and machinery to the various localizations of surgical tuberculosis; and (3) the conduct of continuous work whatever might be the atmospheric conditions.

The three problems have been successfully solved, thanks to the

FIG

competence of our technical manager and his colleagues and to the valuable collaboration of numerous manufacturers interested in our adventure. I must mention that with the latter, as well as with the population of our watchmaking towns in particular, the idea of the factory-clinic met with such a complete comprehension of the social importance of the work as was everywhere manifested by firm promises of collaboration on the part of many factory managers.

We owe most of the machines to the generosity of manufacturers,

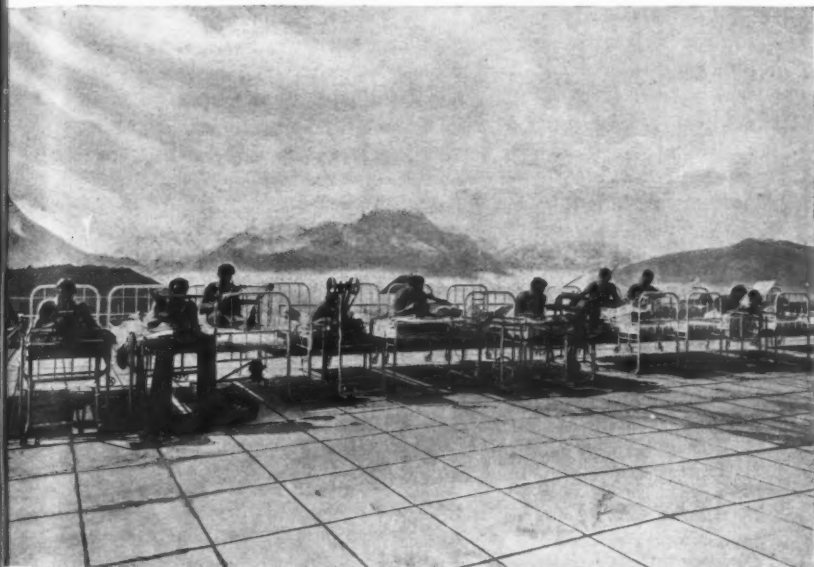


FIG 7.—THE WORK-CLINIC AT LEYSIN: THE SUN AND WORK CURE ON THE SOLARIUM OF THE CLINIC.

who sent us at the same time good orders for spare parts that our patients can turn out at market prices. Unfortunately, the existing economic conditions, which are so seriously crippling the activity of most trades, have had their effect on our factory-clinic, obliging us to find other temporary means of employment in order, at any cost, to avoid unemployment. Once again we found the manufacturers eager to help us.

The financial question continually occupies our minds, for the aim of the factory-clinic will not really be achieved until the price of board and lodging has been reduced to such a low level as will permit the needy workman to earn the whole amount and so maintain himself.

But to achieve this we must find £40,000 for the complete development of our enterprise.

A whole floor of the clinic is reserved for the commercial school, where young people of small means will be able to secure an official diploma: this project has received the approval of numerous principals of educational establishments, who have already spontaneously offered us their benevolent support. The factory-clinic will provide a natural course of management making for recovery and the development of a normal life for needy cases of surgical tuberculosis.

For enfeebled and discouraged invalids, who are often afflicted in soul as well as in body, the liberating work carried on in a sunny atmosphere, before one of the most beautiful panoramas in the world, will convert them mentally and physically. When the time of their complete recovery arrives they will again take up their part in family, civic, and social life, for they will no longer be valueless flotsam and jetsam, but will be healthy and reinvigorated citizens, trained to work and capable of earning their livelihood.

But we expect still more of this humanitarian undertaking. We hope it will be in some way a real centre of moral education; we wish that the regular and busy existence of our patients, passed in full community of interests and aspirations, without distinction of nationality or religion, should stimulate in them charity and the desire to help one another. And at the same time it should develop qualities of conscience and discipline, that, submitting to the divine law of work, they may follow the example of the divine Carpenter, who Himself greatly honoured manual work. We can then obey His commandment, "Thou shalt love thy neighbour as thyself," which is, to sum up, the only and the true solution of the great social problems of all time.

But in order that all the hopes founded on the establishment of our factory or work-clinic may be realized, it must become more and more a centre of enlightenment and beneficent activity; the benevolent interest of all must never fail. For it is only with the help of God and generous hearts that our new building will have a sound and lasting foundation.

"Laboris luscisque beneficio valeas," says the motto of the International Factory-Clinic. With due conciseness it combines the benefits of work and light, the benefits of manual, intellectual, and spiritual work with those of the sun and of the Light of the Spirit.

Let us hope that the work of the factory-clinic, so full of promise, but heavy with responsibilities for its founders and managers, will have the goodwill of all those who are touched by the fate of our unfortunate tuberculous invalids.

The way is traced. We do not doubt that it is the right way. And if later on the experiment should become general, as I firmly

believe it will, a decisive step will have been taken in the domain of the anti-tuberculosis struggle; in the path of social progress also, since by a far adjustment of things indigent tuberculous invalids will henceforth be promoted to the ranks of the privileged.

THE ECONOMICS OF AFTER-CARE IN TUBERCULOSIS.

By P. C. VARRIER-JONES,

M.A. (CANTAB), M.R.C.P. (LOND.),

Medical Director of the Papworth Village Settlement; Hon. Medical Director, Enham Village Centre and Peamount Sanatorium, Dublin; and Lecturer on Tuberculosis, State Medicine Syndicate, University of Cambridge.

THE present Minister of Health (Mr. Arthur Greenwood) on several occasions in his recent speeches has drawn attention to the problem of after-care for tuberculous cases. For example, in his speech in the House of Commons on April 29, 1930, he said: "With regard to tuberculosis, the experience of village settlements and the principles on which their successful working depends has been brought to the notice of certain local authorities where the conditions seemed favourable to the establishment and maintenance of similar settlements. Even if settlements were provided for all tuberculosis patients for whom they would be appropriate there would still be a number of people for whom after-care would be required. I hope that local authorities, as the next move in the campaign against tuberculosis, will consider and experiment in methods of after-care."

Again, in opening the new sanatorium at Black Notley recently built by the Essex County Council, Mr. Greenwood used the following words: "Sanatoria could not provide assistance of a permanent nature, as patients, on leaving them, returned to unfavourable conditions. It seems a little short-sighted for money to be devoted to the building and maintenance of sanatoria when next to nothing was done to provide proper after-care treatment. I hope that attention will be given to this problem."

It seems opportune, therefore, to try to clear the air as to what after-care will have to embrace if progress along these lines is to be made. I have put together a few notes on the subject, and these differ so widely from those made in the Report of the Employment Committee of the Joint Tuberculosis Council that it seems to me that both might advantageously be discussed together.

I should like to congratulate the Committee upon the very wide field they have covered and to thank them for grappling with a most complex and difficult task. The picture they present is one of almost incalculable chaos.

However favourably the anti-tuberculosis measures now in operation in this country may compare with those of other countries, there is no doubt that the whole mechanism of after-care in Great Britain is a ghastly muddle. There is a complete absence of co-ordination, and I regret that the Employment Committee have not more, emphatically stressed this fact. Every sanatorium and every administrative area is plodding along on its own lines, producing good results here and bad results there, paddling its own little canoe and thinking out its own little scheme, which is naturally considered the best of its kind whatever may be the ultimate results. It is only too evident—and the Report already referred to most clearly demonstrates this—that we are merely playing with the fundamental question of after-care in tuberculosis, playing indeed with what is undoubtedly a most vital national problem.

I had hoped that the Employment Committee would have taken their courage in both hands and denounced the pitiable state of affairs which their enquiries have brought to light, and then demanded the application of radical remedies. But no: the Committee seem to be overwhelmed by the size of the problem. In their conclusions they state that "the most difficult and at the same time the most urgent problem awaiting solution in the care and after-care of the tuberculous person is that of his or her employment." I agree. I said the same thing fourteen or fifteen years ago, and no doubt many other people have said it dozens of times both before and since. I have gone further, and said that if nothing is done to see that tuberculous persons who can work are enabled to work, we might just as well throw most of our expenditure on anti-tuberculosis work into the sea for all the lasting good it will do. Sanatoria are excellent for the treatment of early cases, and the truly early case in many instances can be brought to a condition of quiescence. But for the middle class of case—that is to say, for the largest proportion of tuberculous cases undergoing institutional treatment—existing measures are entirely and admittedly inadequate, unless supported by effective employment schemes. All this is well known, and, indeed, was stressed by every speaker at the Congress of the Royal Institute of Public Health at its recent meeting at Portsmouth dealing with tuberculous patients. Everybody knows the essential features of the present position so clearly that I am disposed to apologize for mentioning them. The Employment Committee realize the situation, as we have seen by their own admissions. How, then, do they propose to deal with the question of the employment of the consumptive? "The primary object," they say, "of all

schemes for care and after-care should be to increase the percentage of cases likely to be re-absorbed into ordinary industry"!

Now, with all due respect to the Employment Committee, this is a most disastrous and hopeless recommendation. In their own Report they prove, more clearly than they prove anything else, that "ordinary industry" will not absorb consumptives at any price: yet they conclude by suggesting that the whole object of care and after-care work should be to increase the percentage of cases to be offered to, and rejected by, "ordinary industry." What sort of a solution is this? In America they would call it "passing the buck": in other words, "We can't solve the problem, so let us shift it on to manufacturers and other employers to solve for us." The trouble is that they will not do so, and they cannot be forced to do so. No solution will be found along these lines. What then are we to do?

I notice that the Report is at pains to conjure up all sorts of arguments to prove that village settlements cannot solve the problem. Nearly all these objections are based upon false premises. It is useless to take the absorption rate of our settlement at Papworth as a basis to work upon. Whatever percentage of admitted cases may prove suitable for permanent settlement, our absorption-rate is absolutely governed by our bank overdraft. This is a tiresome factor, which has nothing at all to do with tuberculosis: but if it did not exist our ratio of settlers to admissions would be far higher. In all probability it would be much higher than that at Preston Hall, for there the admissions are limited to ex-Service men, and the percentage suitable for settlement would necessarily be lower than at a settlement having no such limitations.

While on this subject I should like to re-state my opinion that no settlement should limit its benefits to any special class of the community. Such a limitation is absolutely fatal to proper development. To segregate ex-Service men, as is done at Preston Hall and other settlements, is a psychological mistake of the first magnitude. It encourages the "old soldier" spirit for one thing, and for another it sets a term to the permanence of the whole undertaking. What will happen when all the tuberculous ex-Service men of the Great War have passed away? Preston Hall, built entirely for ex-Service men who contracted tuberculosis in the Great War, and supported by the British Legion, whose funds are contributed for the same definite purpose, naturally must then come to an end. Must it? It would be a pity. How much better if the Legion were to present it to the Ministry of Health, as a gift to the nation, so that it might be freed and made available for all tuberculous sufferers who need its benefits. Then it would have a future, and while its present beneficiaries would remain undisturbed its community would be enriched by the younger blood

and new ideas without which any village must in time become dull and static.

Returning now to the consideration of the Report, I must ask that the particulars relating to our Papworth Settlement should be accepted with reserve. I cannot here enter into detailed arguments; but one example will suffice. Papworth Industries showed a small profit of £48 in 1927, on a turnover of nearly £48,000. The loss carried forward from the years prior to 1927 amounted to £2,431. The Committee in dealing with these figures subtracted the £48 profit from the £2,431 loss, which produced a nett loss figure of £2,382, which represents truly enough the total losses incurred over a period of several years. So far so good: but when we find the whole of this accumulated loss considered as though it had been incurred in a single year it is time to protest. It is stated that the loss ratio of Papworth in 1927 was 4.9 per cent., when in fact there was no loss at all, but a *profit* of 0.1 per cent. In 1928 the turnover was £55,000, and the trading loss £150, so that in the two years 1927 and 1928 Papworth's sales total about £103,000, while its net losses in the same period amount to £102—in other words, 0.1 per cent. *loss*, or £1 in every £1,000. I would respectfully suggest to the Committee that an accurate ratio will not be found by setting many years' aggregate losses against one year's turnover. As a schoolboy "howler" a mistake like this is amusing: as a serious statement by an official body it is harmful. The matter is aggravated, because although I have drawn attention to this ridiculous error, it has hitherto not been corrected. Apparently my corrections were received too late for publication. I am therefore compelled to correct it now, publicly. It is exactly this kind of error that has done so much to prevent the true facts about village settlements from being generally understood.

Reverting now to the concluding paragraphs of the Report we find the statement that: "It is true that the question of the employment of the tuberculous person is an economic one." A few lines later the following appears: "There is, in addition, ample evidence to show that the employment of the consumptive is above all a medical question." This is surely a very roundabout way of saying that this problem requires both medical and economic measures if it is to be solved at all? This was anticipated by the late Dr. Hermann Biggs in 1910, when his cogitations led him to prescribe a set of medical and economic conditions which find their most practical expression in the village settlement.

The Report further tries to prove that while village settlements are "the nearest approach to the perfect solution of the medical and economic problems of the consumptive," they are, in fact, incapable of being used on a large enough scale to do any appreciable good. In

other words, the Committee say, on the one hand, that here is the solution of the whole problem; while on the other hand they go on to stultify their arguments by saying that this solution is impracticable. Why?

To my mind the conception of the function of village settlements outlined in the Report is quite wrong. The Report insists that "the real test of treatment is fitness of the individual at the termination of it to resume his work as an economic unit in the outside world." Just so; but as we know that moderately advanced cases, even if reduced by treatment to a state of quiescence, will cease to be quiescent the moment they are exposed to the conditions of the outside world, what is the use of pretending to direct the treatment of such cases towards this end? Permanent damage to lung tissue means a permanently subnormal organism. No amount of treatment will alter this.

Let us now try to consider the whole problem *ab initio*. We wish to stamp out tuberculosis. Very well. Everyone agrees that the most important thing is to secure "early cases." What do we do to secure them? *Take away their jobs*. That is what we do. We brand them as consumptives and so frighten employers away from them. If a man has been to a sanatorium, in their view he must be a consumptive, and therefore he must be both useless and dangerous. The man is, in nine cases out of ten, done for the moment he allows his doctor to discover that he is consumptive. Is this the way to secure early notification? Of course not, and we shall never have many early notifications so long as this system continues.

There are several ways of altering this state of affairs. One is to make the concealment of tuberculosis an offence. This, however, is open to practical objections. Another is to compel everyone to undergo a thorough clinical examination at regular intervals. Here again there are evident difficulties. Another is to remove the fear of economic disaster. This is where village settlements come in. If a man knew, in the event of his being found to be tuberculous, that he would receive immediate treatment, that his family would be supported while he was receiving treatment, and that if he proved to be suffering from extensive and permanent damage he would be able to live and work permanently in a village settlement with his family, the whole tuberculosis problem would be revolutionized. Those who thought they had tuberculosis would present themselves for treatment at a very early stage, and then our sanatoria would be able to report a far greater measure of success than is possible at the present time.

Even so, however, many cases would not be discovered until too late—that is, until extensive damage had been done: but the ratio of early to moderately advanced and advanced cases would slowly but surely increase. Instead of 40 per cent. of sanatorium discharges

requiring permanent settlement, the proportion would diminish to nearer 20 per cent., and the remainder, having received treatment early, would be fitted to "resume work as economic units in the outside world."

The Committee, it seems to me, have entirely missed this most important economic argument in favour of village settlements; but surely it will be agreed that when it can be clearly demonstrated (a) that to become consumptive does not mean certain ruin, (b) that patients with permanently damaged lungs will be able to live in a special but pleasant environment, and (c) that patients who are discharged to the outside world after treatment will really be capable of working in that world, the problems of tuberculosis will be greatly simplified. Remove the economic fears of consumptives, and there will be an immediate increase in the number of early notifications. This increase will in turn enhance the value of sanatorium treatment. And this will, in its turn, remove from our midst the distressing sight of so-called "arrested" cases, haunting the tuberculosis dispensaries, waiting for a cure that never comes, seeking work that is never found, sinking physically, financially, and socially, until at last they utterly fall to rise no more.

Coming now to the real subject of this paper, the economics of tuberculosis settlements, again I join issue with the Committee. To say that the capital cost per settler at Preston Hall is £525 is to put the matter in a most depressing and shortsighted way. The capital cost per *original* settler may be £525: but this £525 will provide for a succession of settlers. The cottage that houses John Brown today will be available, when he vacates it, to house William Smith, and so on. The capital which secures employment for John Brown will also, unless lost, be available later on for the use of William Smith. Thus the capital cost per settler, regarded, as it should be, in relation to the life of a settlement and *not* in relation to the life of a particular settler, will be seen to be far less. Five or more families may successively inhabit the same house: so the actual cost per settler must be written down to the more reasonable figure of 100 guineas or even less. It is when this kind of thing is more generally realized that we shall come to see how truly economical properly conducted village settlements really are.

As to the industrial side of village settlements, the Committee again take a dismal view. They seem to imagine that two village settlements are about as many as Great Britain can support. This is not the spirit of the merchant venturers. It is not the spirit of the late Lord Leverhulme. If his mind had worked on these lines he would have said, "I have got a soap business, and I had better not try to extend it or I shall overreach myself." He did not argue this way, however, and I think I am right in saying that ultimately he controlled

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165 companies, and rejoiced from time to time in overdrafts which far exceeded anything we at Papworth have yet approached. When there are 165 village settlements it will be time to express doubts as to expansion. Now it is, to say the least of it, premature.

I have recently, in collaboration, prepared for the Ministry of Health a memorandum setting forth how further village settlements can be capitalized at no additional cost to the nation, and I see that an abstract of this appeared in *The Times* of February 17 and also later in the *Lancet*. That abstract really epitomizes my views on the extension of village settlements. I may be wrong: there may be some reason why the scheme indicated there is unworkable, but if so I have yet to learn of it.

In the meantime do let us admit that we are playing with after-care in tuberculosis: that expensive propaganda designed to tell the tuberculous how to live is waste of money unless the sufferers are enabled to follow the advice given: that our sanatoria are useless for permanently arresting the disease except in early cases, unless coupled with village settlements: that employers will not employ consumptives as long as fit men are available: that early cases will remain the exception and not the rule until the economic fear is removed: and that the falling tuberculosis death-rate is due, not entirely to our medical efforts, but to the general improvement in the national standard of living. Then we shall be far nearer understanding the problem, and then we may be able to make some effective contribution towards its solution. At present our profession is doing very little preventive anti-tuberculosis work of any permanent value at all, and claiming credit for the results of social legislation for which we are not by any means wholly responsible. This is regrettable, but true, and it is for us now to make great efforts to justify the confidence which the public even yet reposes in us.

In conclusion, let me once more emphasize the only means by which in my view this urgently required contribution will be made. It is by pressing for the removal of the economic fears attendant upon diagnosis: by using our sanatoria for the early cases so attracted to them: and by providing permanent protected employment in village settlements for those who, even then, in many instances will be diagnosed too late for such effective treatment as will fit them for regular work in this our workaday world.

AN IMPRESSION OF THE SIXTEENTH ANNUAL CONFERENCE OF THE NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS.

By HARLEY WILLIAMS,

M.B., CH.B., D.P.H.,

Medical Commissioner of the National Association for the Prevention of Tuberculosis

THE National Association for the Prevention of Tuberculosis met in Conference on July 3 and 4, 1930, in the Great Hall of the British Medical Association, Tavistock Square, London, under the chairmanship of Sir Arthur Stanley, Chairman of Council. The formal subject for consideration was the "Local Government Act, 1929, in Relation to Tuberculosis Work."

The Minister of Health, the Right Hon. Arthur Greenwood, M.P., in his formal opening speech referred to the work which the National Association had performed through a generation, and offered congratulations upon its close co-operation with the Public Health Authorities and the medical profession. He indicated that the principle of the Act was to give more freedom to Local Authorities, and now tuberculosis work would be brought into relation with other public health activities. The Public Assistance Authority and the Tuberculosis Authority were now to be viewed as the same body. Effective care for tuberculous persons would be greatly facilitated by the Act, and that was the great problem of the moment. They were not thinking in terms of territory, of trade, of money, but in terms of human quality.

The business of the Conference opened with two illuminating papers from the principal Medical Officers from the Ministry of Health and the Health Department for Scotland. Sir George Newman in an erudite historical sketch laid stress upon a side of the Local Government Act sometimes forgotten. It was no leap in the dark, but rather the culmination of a century of Local Government reform and one which had been recommended more than once by Royal Commissions. The remedial and preventive aspects of tuberculosis work would henceforth be brought together under the same authority. Sir George underlined the new standards of achievement which would be expected of Local Authorities. In future they would be judged by the pace set in comparable areas.

Dr. Parlane Kinloch, of the Health Department for Scotland, said

that the rate of decline in twenty years of the mortality from tuberculosis in Scotland had been greater than that in England. In the earlier days of tuberculosis administration the relative number of beds for the disease in Scotland was more than in England, and to this and also to the educative effort it inspired he attributed a portion of the accelerated decline in the prevalence of the disease. A regional scheme of health administration based on the four University centres had been steadily developing in Scotland for some years.

The general administrative position was discussed first of all under the heading of Institutional Treatment. Dr. J. A. Wilson, Assistant Medical Officer of Health for Glasgow, said that they had found it necessary in that city to make a revaluation of the number of beds required, with a proportion of hospital and sanatorium beds of 7 to 1. The use of X-rays and other diagnostic methods had diminished the need for observation beds.

Mr. Acton Davis, Consulting Orthopædic Surgeon to the London County Council, pointed out that in London the provision for cases of tuberculosis of the bones and joints in children was as near perfect as it could well be. Some difficulty was experienced, however, in regard to after-care. The treatment of adults left room for considerable improvement. In the future, conservative treatment of surgical tuberculosis would be given a better trial in the new institutions which would speedily be available.

The consideration of the relationship of the general practitioner to the treatment of tuberculous disease occupied the second sitting, and two very clear summaries were provided by Dr. Lissant Cox, Central Tuberculosis Officer for Lancashire, and Dr. William Brand, Tuberculosis Officer for Camberwell, dealt with the administrative side, while Dr. J. Cohen of Paddington dealt with the problem from the point of view of the general practitioner.

Dr. Lissant Cox spoke as one who was familiar in Lancashire with the closest co-operation between the County Authority and the general practitioners: 86 per cent. of his cases were sent to the Tuberculosis Dispensary for an opinion before notification. Dr. Cohen voiced the familiar consideration that the general practitioner was inclined to lose touch with his patients after sending them to the Dispensary. Education is one of the main factors in the work of the Dispensary unit, and he conceded that the Tuberculosis Officer would always be necessary for service as a consultant. Dr. Brand stressed the difficulty of dealing with non-insured patients. The economic and social difficulties should be easier to solve under the new Act, but in the problem of diagnosis the general practitioner must always have to depend upon the resources of the Dispensary.

Under the new régime the problem of improving the hygiene of

growing children will receive more and more attention, and an interesting symposium of the whole question of open-air schools, nursery schools, and the provision of extra nutrition especially by means of an increased milk supply was discussed by authorities whose views were complementary to each other.

The President of the National Union of Teachers, Mrs. Manning, described the school which she manages on open-air lines at Cambridge, and her experiences did much to convert the few sceptics who still view this form of anti-tuberculosis activity with mistrust.

Dr. Burgess, Medical Officer of Health of Dundee, summarized the whole position in an admirable paper. In Scotland, the position is rather different, because now for the first time education and public health will be dealt with by the same authority.

The Margaret McMillan Nursery School at Deptford was described, and its influence in preventing respiratory catarrh and arresting malnutrition in children gives rise to very obvious reflections in the mind of the tuberculosis worker when he thinks of the importance of childhood in relation to the beginnings of infection.

Dr. Gerald Leighton, of the Health Department for Scotland, gave an outline of the scheme for giving an extra ration of milk to school children which has been carried out under his auspices. It was the aim of the department to see that only the highest grade of milk was given to children, and this would have great influence in stimulating the production of milk under special designations.

The second day of the Conference was opened by a technical but very interesting account of the Exchequer Grant system, which is to be changed from a percentage to an absolute basis. Colonel F. E. Fremantle, M.P., was an enthusiastic supporter of this readjustment. No longer would the residential and suburban areas receive more Government aid than the depressed industrial towns, merely because they were able to spend more. Authorities were larger and institutions could be used in common. The position of the Poor Law institution in the prevention of tuberculosis had been under-estimated in the past.

Dr. F. J. H. Coutts, C.B., late of the Ministry of Health, described the machinery of the grant. Care must be taken that the new moneys were spent for the purpose they were intended—that is, for the development of public health schemes, and not only to relieve the rates.

Mr. H. L. F. Fraser, of the Health Department for Scotland, said that in the past where the local authority was progressive in its work there was no difference between development in those fields where the percentage grant operated and others. He did not fear that the new system would prove any handicap to the authorities, and in some areas it would make a very big financial improvement.

Major Walter Elliot, M.P., summarized the position, and said that

for the community to keep up a centre of infection was much more expensive than for a man to keep up a Rolls Royce motor-car.

The important subject of continuous care was dealt with by Dr. Allen Daley, of the London County Council, Sir William Whyte, formerly District Clerk of Lanarkshire, and Dr. Clark, Assistant Medical Officer of Glasgow. Dr. Daley spoke of the part which the Poor Law hospital would have in the new scheme; a "no-man's land," full of the patients after they had left the sanatorium, would be taken over by a trained almoner, who would replace the old relieving officer. Sir William Whyte devoted his remarks principally to training schemes which have been set up in connection with the farm colony at Hairmyres in Lanarkshire.

At the last session of the Conference an attempt was made to deal with all the many points of interest to nurses, health visitors, and voluntary workers working in connection with the Tuberculosis Dispensary. Miss Edith McGaw, Hon. Secretary of the Paddington Dispensary, read the first of a series of good papers dealing with the question. The term "after-care" was unfortunate, said Miss McGaw, since the need for looking after the tuberculous invalid began, not after he returned from the sanatorium, but throughout his period of treatment, and particularly in respect of the patient's wife and family. The best care committee was provided by the staff of the Dispensary with the Tuberculosis Officer acting as the chairman. Miss M. E. Broadbent hoped very great things in the prevention of overlapping when the new authorities took over the public assistance work. Miss N. Brocklehurst, Health Visitor for Lewisham, gave an outline of the duties of a Tuberculosis Nurse. She should visit every newly notified case, and should, in a tactful manner, make herself familiar with the whole of the social circumstances of the case.

At the conclusion of the Conference the Annual Meeting of the Association took place; the Medical Commissioner, the writer of this communication, gave an account of the educational work which is being carried on by means of lectures, exhibitions, and cinematograph demonstrations addressed to all types of people and throughout the country.

From this necessarily brief and condensed survey it will be seen that the Conference covered a very wide field, and it is natural to assume that, now that all legal difficulties are swept away by the new Act, tuberculosis organization and administration will become more simplified and at the same time more effective.

On listening to the speeches one felt that, although the problem must differ widely one area from another, the basis of action will in all places be the same: the keynote of the future is co-ordination. One surmises that had the Dispensary system been put into operation

in more places in its full implications there would now be but little need for such details as seem to perplex many of the delegates. But, as in every other part of social reform, the pace of improvement is that of the duller part of a local authority, and of the most careless consumptive person.

Throughout the discussions and on each occasion there were more speakers than time permitted to be fully heard. The real success of the Conference of 1930 was indicated in the good-humoured protests expressed by some delegates from the provinces at what was called the "monopoly of the platform" by representatives from Scotland and the metropolis.

Sir Arthur Stanley, in closing the proceedings of the Conference, suggested that the problems of London and Scotland were the same as those existing in other centres. The representatives from the Midlands, having voiced their point of view, withdrew to take afternoon tea and ponder over the lessons of the meeting.

The third day was devoted to activities of a more social nature. Through the kindness of the Surrey County Council, a number of members were entertained at lunch and made a visit of inspection of the new county sanatorium at Milford, near Guildford. Later in the afternoon the colony at Burrow Hill Sanatorium was visited, where tea was given.

In due course a volume of Transactions will be issued by the Association, and copies may be obtained on application to headquarters at Tavistock House North, Tavistock Square, W.C. 1.

THE SEVENTH CONFERENCE OF THE INTERNATIONAL UNION AGAINST TUBERCULOSIS: OSLO, NORWAY.

By HARLEY WILLIAMS,

M.B., CH.B., D.P.H.,

Medical Commissioner to the National Association for the
Prevention of Tuberculosis.

At its sixth meeting in Rome in 1928, the International Union Against Tuberculosis decided to respond to the invitation that the next Conference should be held in Norway. This was a most happy inspiration and none of the International meetings can have been more enjoyable than the seventh, which opened at Oslo on August 13, 1930, in the presence of the King and Queen of Norway.

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In Britain, it is the tradition that such scientific gatherings should be inaugurated with stiffness, formality, and heavy pomp. In Norway, by contrast, there was a delightful service of music, and one of the leading actors of the younger school recited a deeply impressive poem to symphonic music by Greig.

Undoubtedly this year's Conference will be looked upon chiefly as a theatre from which B.C.G. and its latest results were demonstrated to the world. Professor Calmette introduced the discussion in a very lucid speech. He holds that immunity against tuberculosis exists only as long as the body holds within itself a certain amount of the living virus; resistance becomes lost if the tuberculous lesion disappears, either by spontaneous healing or complete removal. The B.C.G. is a living strain of hereditarily fixed characteristics. It has been cultivated by Calmette through a long series of generations for many years. The two crucial questions, (1) Is the B.C.G. harmless? (2) Does it confer protection? are answered by Calmette with a strong positive. If the culture is given by the mouth to an infant a few days after birth and before the child has been in contact with an open case of tuberculosis, no untoward results have been observed in a large series of cases in many countries of the world. Allergic subjects already infected or immunized can derive no benefit, and therefore the children must be kept away from infection for about twelve months. The results, as Calmette claims, are shown in the death-rate among vaccinated children of 3.4 per cent. as compared with 15.9 per cent. in infants brought up in a tuberculous milieu. The question has been raised, chiefly in America (S. A. Petroff), that virulent colonies have been found in B.C.G. Calmette denies this and asserts that no experimental or clinical fact leads us to suppose that B.C.G. may recover its virulence. Professor Calmette's paper was very well received and supporting speeches were made by Jensen (Denmark), Sayè (Barcelona), W. H. Park (America), Heynsius Van den Berg and others. A leading opponent was Watson of Ottawa, who affirmed that virulent strains had been found in the B.C.G.

The second question on the agenda referred to the use of thoracoplasty in the treatment of tuberculosis, and was ably introduced by Professor Bull of Oslo. Giving the experience of himself and his Norwegian colleagues, covering over 600 operations, he spoke of this procedure with enthusiasm and confidence. He desired that all Sanatorium physicians should be acquainted with the scope of the method and its advantages, and he considered there was no reason for withholding it from patients with unilateral disease who could not be cured by conservative methods alone and in whom it was not possible to introduce collapse of the lung. Professor Bull practises a para-vertebral incision with resection of the ribs from the eleventh or tenth to the first.

As regards anæsthesia, he finds no difference in results between local and general methods. (Other speakers disagreed here and advocated a combination of 0·5 to 1 per cent. of novocaine, with ether.) Professor Bull was inclined to be guided more by the nervous condition of the patient. He prefers the two-stage operation, believing that the risks were greater in the latter, but in young patients of good physique the single stage was possible. Here again Gravesen (Denmark) and Morrision Davies (Ruthin) differed and preferred the single stage. Dealing with cavities which it was impossible to collapse by ordinary thoracoplasty, Professor Bull believed in loosening the apex of the lung and plugging with gauze or by fat transplantations. Avulsion of the phrenic nerve could be used as a kind of test operation before thoracoplasty to see how the lung would react. His operation mortality was about 10 per cent., and some 16 per cent. derived no benefit from it. But Professor Bull claimed that 35 per cent. of those who could not be saved by other means could be cured by operation and become fit for work. Sauerbruch (Berlin) from an experience of 1,200 cases claimed the success of 40 per cent., rising to 80 per cent. with strictly unilateral disease. He used $\frac{1}{2}$ per cent. novocaine for choice, and preferred the one-stage operation. Morrision Davies (Ruthin) pleaded for less stereotyped methods. The removal of a large extent of ribs was not necessary if there were no rigid cavities. After experience of both methods, he preferred the one-stage operation with a combination of local anæsthesia and a light chloroform narcosis. The object of thoracoplasty was not to eradicate the disease, but to rest the lung by overcoming mechanical disabilities.

The third and more general item on the agenda was opened by Professor W. His (Berlin). He had circulated a questionnaire to a large number of Universities with regard to the teaching of tuberculosis to medical students and physicians. He recognized the danger of this important subject becoming separated from general clinical work, but had found that this was not as a rule the practice. As regards undergraduate teaching there were usually courses of lectures and demonstrations in the out-patients' department. In Germany, the Tuberculosis Dispensaries were not systematically used for the teaching of students except where they were affiliated to the Universities. University chairs in tuberculosis were in existence or under contemplation in many countries. As regards post-graduate teaching, there were regular courses. Sometimes doctors were allowed to reside in sanatoria for a week or two. In other places, classes were held on Saturdays or Sundays for the practitioners of the district. Some National Associations provided scholarships and teaching. One had the impression from Professor His' paper that there was room for improvement, chiefly in greater organization of the material at hand.

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Sir Robert Philip described his undergraduate teaching which had been in existence in Edinburgh since 1887. Students were given a complete course lasting over one University term with clinical and pathological instruction and visits to institutions. In the past, attention had been too much centred on pulmonary tuberculosis. While training in the methods of physical and other diagnosis was important, it was essential that the students should be given a more general conception of tuberculosis as a practically universal infection and by no means always showing itself as lung disease.

After the Conference, delegates from all countries formed groups, and made memorable excursions to the more beautiful parts of Norway; visits to institutions (which show how well organized tuberculosis schemes are in rural parts of Norway) were happily combined with journeys down the fiords and pleasant social evenings in those clean, picturesque wooden towns which leave with the traveller such an abiding impression of poetry and charm.

The organization of the Conference under Professor Frölich of Oslo and Dr. N. Heitmann, Government Inspector of tuberculosis work in Norway, was beyond all praise. We understand that the next meeting of the International Union is to take place in 1932 in Holland.

The journey to Oslo was broken by a number of the delegates in order to participate in a meeting at Hamburg arranged by the German Tuberculosis Societies. This was most ably organized by Professor Brauer at the Eppendorf Hospital. The question of the new salt-free dietary methods of treatment was discussed by such authorities as Brugsch of Halle, and that of allergic diseases, especially bronchial asthma, by Kämerer of Munich. But perhaps the most interesting part of this gathering was a demonstration by Professor Schurmann of Berlin of pathological specimens obtained, it is understood, at Lübeck, which showed in a very remarkable fashion the portals of entry in the alimentary tract. Members of the Conference had opportunities of seeing, in small groups, the research apparatus in which the Hospital is so rich. Blood gas analysis and procedures for determining the output of energy, etc., were demonstrated. Professor Brauer, the pioneer of chest surgery, also demonstrated cases of thoracoplasty by the method of a para-vertebral incision which he uses.

IMPRESSIONS OF THE TRANSATLANTIC TUBERCULOSIS SCHOLARSHIP TOUR.

By ERNEST WARD,

M.A., M.D. (CAMB.), F.R.C.S. (ENG.),

Tuberculosis Officer for South Devon, Secretary of the Tuberculosis Group
of the Society of Medical Officers of Health, etc.

FACED with a request to write impressions of our recent tour through Canada, the writer feels as might a traveller just emerging from a whirlwind in the desert if asked to write his impressions of sandstorms. My chief impressions are of the depth of friendliness and the warmth of hospitality with which we were received.

On August 15, 1930, we reached Quebec at 5.15 p.m., and were submitted to an individual and meticulous examination by the United States Immigration Officers, lasting, in the case of some unfortunates, until 8 p.m. Those who emerged from the test before 7.15 p.m. were rushed in cars to the Laval Tuberculosis Hospital, some six miles away, then back to see the sights of Quebec, all at breakneck speed, and in the twilight of a summer evening, to the accompaniment of a picturesque thunderstorm. My car collided once, but we were able to limp back to the ship in time to dress for a dinner given by the Provincial Government at 9 p.m.

On August 16 we reached Montreal and transferred to the magnificent Mount Royal Hotel in time for dinner, after which some of us were taken by car to see Montreal by night. Next day, Sunday, August 17, we were shown the McGill University, the St. Joseph Shrine, which has a "Lourdes" reputation, and then the "Sacred Heart" Hospital. In the afternoon there was a long journey by car, a visit to a pensions hospital with 450 beds, and tea with the President of the Sun Life Assurance Company at Hudson Heights. It was the generosity of this company which made our tour possible. Later in the afternoon a train was stopped at a crossing, and we moved on to the Chateau Laurier Hotel at Ottawa.

Early on August 18 the Parliamentary and other buildings at Ottawa were viewed, and then the Research Laboratories of the Department of Agriculture, where three papers were read by members of the staff and questions asked; then came the Royal Ottawa Sanatorium and lunch. The next move was to the Civic Hospital, where a business visit was combined with entertainment by the Board of Governors, followed by a drive round the vicinity in the cars of members of the Ottawa Medico-Chirurgical Society. In the evening

everyone was entertained to dinner by the City of Ottawa; the newly appointed Minister of Health was present, and a very friendly meeting ended in a night journey to Toronto, which we reached before breakfast on August 19.

At Toronto breakfast was the first consideration, then a welcome by the Mayor at the City Hall and a description of work by the Medical Officer of Health. Next, the Hospital for Sick Children was visited, and some lantern and other demonstrations given. We next saw the Gage Institute, which administers organized charity in health and other directions, and then proceeded to the Toronto Hospital for Consumptives at Weston. The afternoon was spent visiting the Christie Street Hospital, where there are many army pensioners, and where also Dr. Caulfield's work on the "inhibitive" blood reaction is being carried out. We next saw a demonstration at the Connaught Laboratories, and went to dinner at an old-time hostelry as guests of the Government of the Province. This was indeed a very full day.

On Wednesday, August 20, we were still at Toronto, and an early visit and demonstration of travelling clinics took place. Hart House Residential College was next seen, then a visit to a Preventorium, followed by lunch at the Rosedale Golf Club. The afternoon was spent on a steamer at the invitation of the town, and the day ended with a night journey to Bala on the Muskoka Lakes.

On Thursday, August 21, a journey by steamer of some twenty-five miles brought us to Calydor Sanatorium, and then twelve miles by rapid motor-boat landed us at the Muskoka Yacht Club for lunch. In the afternoon Gravenhurst Sanatorium was visited; there we had dinner, and returned to railhead by steamer to commence a train journey to Ninette, near Winnipeg, lasting two nights and a day and a half.

Sunday and Monday, August 24 and 25, were spent at the Annual Meeting of the Canadian Tuberculosis Association at Ninette Sanatorium, visiting the institution, and discussing tuberculosis with colleagues. A feature of this visit was a country picnic on the Sunday, followed by a camp fire at which the pipe of peace was passed round, discussions took place and stories were narrated.

Tuesday, Wednesday, Thursday, August 26, 27, and 28, and part of Friday, August 29, were spent with the British Medical Association at Winnipeg. This was a fruitful period for members of the party and a useful rest for their secretary. I have happy recollections of a witty and unconventional popular lecture by Dr. Robert Hutchison and a rather bewildering series of ghost photographs by Dr. Hamilton of Winnipeg. Friday, August 29, was made memorable to me by an aeroplane flight to a tea-party at Fort Garry, and later the party entrained for Chicago, which was reached after midnight on August 30.

Sunday, August 31, was spent seeing Chicago, and especially the Municipal Sanatorium, at which we were entertained. Later, a move was made to Detroit, which was reached at 10.30 p.m.

Monday, September 1, was a very full day. First the sights of Detroit were shown, including the house of Henry Ford. Then we saw the Herman Keifer Hospital, and afterwards left for London, Ontario, which was reached at 4 p.m. Buses met the party and showed us London, and on the way we took tea with representatives of the town at the Byron Sanatorium. The party were entertained to dinner by the London Life Assurance Company, and left for Hamilton about 7.50, arriving 9.30 at Hamilton Station, where we were met by the doctors of the town and driven to see the sights, and then to an "At Home," where we met several old friends.

Tuesday, September 2, opened with a visit to the Mountain Sanatorium, where we were entertained to lunch. In the afternoon we had a long drive and visited a fruit orchard, after which came tea at St. Katherine's Sanatorium, a small but excellently organized institution, and later we saw the Niagara Power Station and the Falls. After dinner and some minor customs worries we left for New York.

On Wednesday, September 3, New York was reached before breakfast and parties were formed to visit various institutions. I went alone to the National Tuberculosis Association and spent there a very useful day, and was afterwards entertained by the American Women's Association and then driven round New York.

Fortunately, on Thursday, September 4, a police escort was provided, otherwise our programme would not have been possible, because of distances and of the congested traffic. In the morning the Altro workshops were visited and then the Academy of Medicine, where we had lunch. In the afternoon a distant country visit was paid to the Montefiore Sanatorium, and on the evening of this day the party broke up and I gave my thirty-seventh and last newspaper interview.

Some of us stayed on for a few days. I remained with a friend in Pennsylvania, and from there visited Atlantic City, Philadelphia, Washington, Baltimore, Mount Vernon, Wilmington, and, finally, Boston. During these days we saw the Johns Hopkins Hospital, the Phipps Institute, and the Harvard Medical School.

Readers of this JOURNAL may now understand what I mean by the sensation of whirlwind. There are certain general impressions, however, which may be worth recording:

1. Knowledge of treatment is international; the methods used are similar in all countries; there are but local differences in the frequency with which this or that line of treatment is applied. But we are behind our transatlantic colleagues in regard to the study and management of bovine tuberculosis.

2. The organization of statistics and schemes of treatment across the Atlantic is in the hands of voluntary bodies, and it seemed to me that in some respects a central control would be valuable. There are also advantages, it must be recognized, in blending tuberculosis work with the general public health organization.

3. Differences between transatlantic tuberculosis work and similar work in this country are caused by the absence there of a National Health Insurance Act and of Unemployment Insurance in Canada. Sometimes patients are kept indefinitely in institutions because they have no other means of support.

4. In certain localities I was impressed by the change of Medical Officer of Health every year or so when the Mayor of the town or the politics of the elected representatives changed. The man appointed need not have any knowledge or experience of public health work, and two instances were told me in which the Mayor had appointed his private doctor. No doubt able and public-spirited work is not impossible under such circumstances, but the possibilities of grave temptations to corruption must be recognized, for such an officer has a low salary, the appointment may be a part-time one, and the period of office short; one is tempted to speculate about the occurrence of private consultations with patients recommended by colleagues for institutional treatment, about the appointment of other officers to perhaps rather lucrative subordinate positions, and the initiation of expensive improvements or the installation of special apparatus in hospitals, sanatoria, and other institutions. But these remarks are only by the way, and included because the editor asks for them: the main impressions on the writer's mind are haste, hospitality, and kindness.

There are very many connected with the tour that I should like to mention, but there is one that must be named in Dr. Robert E. Wodehouse, secretary of the Canadian Tuberculosis Association, whose organizing ability and genial good-humour made the tour possible.

CRITICAL SURVEY

THE GERSON TREATMENT OF TUBERCULOSIS.

By D. CHALMERS WATSON,

M.D., F.R.C.P.E.,

Physician to the Royal Infirmary, Edinburgh; author of "Food and Feeding," etc.

THE Gerson system of diet therapy is in the forefront of medical thought and discussion in Germany today. Within the last year short annotations on the subject have been made in the columns of the *Lancet*, under the heading of "Diet in Tuberculosis," this title, however, being an unduly restricted one. In the *Lancet* of December, 1929, it was reported that a number of distinguished experts from Vienna had made a special visit to the surgical clinic of Professor Sauerbruch in Vienna and had formed a favourable opinion of the results of the treatment, sufficient to justify a recommendation that a thorough independent investigation of the subject should be made. In April, 1930, the writer had a full opportunity of personally studying the method and results of the treatment as carried out in the surgical clinics of Professors Sauerbruch and Hermansdorfer in Berlin and in other institutions, and also in Dr. Gerson's clinic in Cassel, and this experience led him unhesitatingly to the same conclusion, and within the last few weeks arrangements have been made whereby further tests are to be carried out in the wards of the Royal Infirmary, Edinburgh. The writings of Professors Sauerbruch and Hermansdorfer deal with the dietetic treatment of tuberculosis, especially of surgical tuberculosis of the skin, bones, and lungs; Gerson claims that the system has a much wider application in general medicine.

The Essentials of the Gerson System.

The essentials in the Gerson diet system are as follows: (a) The all but complete exclusion of sodium chloride (Hermansdorfer), salt being entirely excluded in the Gerson régime, a halogen-free vegetable kitchen salt preparation—Eugusal—being used as an effective substitute;¹² (b) fresh uncooked vegetables and fruits bulk largely in the diet, either in the form of vegetable extracts prepared by pressing un-

cooked vegetables, such as carrots, beet, spinach, turnips, or in the form of salads; also fruit juices similarly prepared by pressing and straining; (c) marked restriction in the amount of flesh meat foods, 600 grammes weekly being allowed in Hermansdorfer's system, Gerson allowing meat once or twice weekly; (d) fresh uncooked milk, one pint or more daily, sour milk, eggs, especially yolks, oatmeal, wholemeal bread, and farinaceous foods in restricted amount; (e) various spices are used to increase the flavour of the dishes. The régime also includes two medicinal preparations: (a) mineralogen, a special blend of mineral salts of vegetable origin;¹² and (b) a phosphoric acid, cod-liver oil preparation,¹² both being administered thrice daily.

The Results claimed for the Gerson Diet.

Gerson, Sauerbruch, and Hermansdorfer claim that results of great value are obtained in the treatment of lupus, tuberculous disease of the bones and joints, and in the surgical treatment of tuberculous disease of the lungs, and confirmatory results have been described by many other observers. Definite and conclusive evidence as to its value in non-surgical tuberculosis of the lungs has not been submitted. Suggestive evidence in this direction was, however, personally seen by the writer in cases under treatment by Dr. Gerson in his clinic. As there are now many institutions in Germany in which a special kitchen has been installed for this method of treatment, information as to its value in general pulmonary tuberculosis should ere long be forthcoming.

In regard to the claim made by Gerson as to the value of the treatment in a wide range of medical disorders, the writer saw much which appears to substantiate this claim. The results personally observed in the treatment of such divers conditions as rheumatoid arthritis, cardiovascular degeneration, asthma, chronic skin conditions, and disorders of the central nervous system were certainly of an arresting character. It should be noted that, in addition to the dietary system described, full use is made of other recognized methods of treatment.

There is no question that if the claims of Gerson, Sauerbruch, and Hermansdorfer are established, they will form the basis of a new and highly important era in the history of medicine and medical progress. It is possible that the most important conclusion to be drawn from the results will be the demonstration of the pre-eminent value of fresh natural foods, containing all the vital properties essential for sound nutrition.

Arrangements are in process for the publication of an English edition of Gerson's work. The German literature on this subject is already extensive. The subjoined list of references, taken from a recent paper on the subject in the *Medical Press and Circular* includes

many which cordially endorse the value of the system, and some which express less favourable opinions on the results of the treatment.

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THE BURROW HILL SANATORIUM COLONY
FOR ADOLESCENT BOYS.

UNDER the auspices of the National Association for the Prevention of Tuberculosis, a colony for tuberculous youths of from fourteen to nineteen years of age was established in April, 1929. We are indebted to



BURROW HILL SANATORIUM COLONY.

The boy patients are here shown at play. The dormitories are on the right.

Dr. Harley Williams, the Medical Commissioner of N.A.P.T., for the following condensed account of the progress of this interesting experiment:

If one glances at statistics it is an astonishing thing to learn that something like one third of the deaths from pulmonary tuberculosis occur during the years of adolescence and immediately after. It is clear, therefore, that during this period of mental and physiological stress and strain there must be factors which play a part in lowering resistance to tuberculous infection. It would seem, therefore, that any system of treatment requires, in addition to ordinary therapeutics, an educational side with a vocational outlook. The National Association gives in its sanatorium at Burrow Hill, at Frimley, in Surrey, a sound education as well as a physiological life. There are two

pursuits which the boys in residence can follow: (1) gardening for the country boys and (2) clerical work for those who will go back to occupations in the cities. Both of these offer an excellent chance of employment. Both pulmonary and non-pulmonary cases are taken, and the great majority of the boys are able to join in games and enter into the distractions of a residential school. It is a pleasant sight to see the boys enjoying themselves in flannels, and to



BURROW HILL SANATORIUM COLONY.

The boys are here shown engaged in their studies.

feel that the whole place lacks entirely the atmosphere of an institution for the sick. The medical side is rightly kept in the background. The instructors are experts in their subjects and experienced at handling boys. The Burrow Hill scheme certainly provides not only an invaluable field for the study of tuberculosis in adolescence, but goes far to show how a big vocational problem can be solved. Each boy is carefully selected, being recommended and paid for by the local authority responsible. Applications for admission should be sent to the Medical Superintendent, from whom full particulars can be obtained.

THE LONDON INSTITUTE OF RAY THERAPY.

THE Institute of Ray Therapy (Sunlight Clinic) is situated at 152-154, Camden Road, N.W. 1. Dr. William Beaumont, the Medical Director, has favoured us with the following description, dated August 13, 1930: The Institute, officially opened in the second week

in March, 1930, has already dealt with 990 patients, and approximately 25,350 treatments have been given. The Institute is conducted like a voluntary hospital, but is open from 2 p.m. to 9 p.m., thus enabling adults who are at work during the day to attend without breaking into their working hours. School children are treated between 4 p.m. and 6 p.m. by special arrangement with the L.C.C. The building in which the work is carried out comprises two floors: The ground floor is a large hall, in which treatment in the form of artificial sunlight is given in groups for general tonic effects. The first floor is divided into cubicles, each



THE LONDON INSTITUTE OF RAY THERAPY.

devoted to a particular service demanding individual treatment and specialized skill, and where some branch of ray therapy is indicated. Special provision is made for the treatment of cases of tuberculosis, such as lupus and tuberculous sinuses. For all such cases local and general treatment is available. Tuberculous joints are given general treatment. Cases of pulmonary tuberculosis are also dealt with, a new type of lamp being employed, and in accordance with Continental technique. Rest rooms are available, so that patients may have a period of quiet before going out after treatment. The atmosphere of the Institute is friendly and homely. The accompanying illustration indicates the general appearance of the outside of the Institute.

NOTICES OF BOOKS.

THE VERNES TEST FOR TUBERCULOSIS.

Dr. Robert Lévy's new work on the Vernes test for tuberculosis will be of service to those interested in this comparatively new method for the investigation of suspected tuberculous cases.¹ In the year 1926 Dr. Arthur Vernes published his researches on the flocculation of blood-serum to which resorcin had been added, and showed how the optic densities of different blood-sera could be measured and compared by means of a photometer. During the preceding three years he had investigated the blood-sera of some hundreds of patients, and had demonstrated by means of careful and methodical experiments that in the presence of tuberculosis the optic density of the blood-serum gave a higher figure than thirty, and in the absence of tuberculosis a figure below fifteen. The details of his work are fully described in Fascicule 4 of the "Travaux et Publications de l'Institut Prophylactique." Since 1926 his theses have been further studied by workers in many lands, who have published their results, and much interest has been aroused in this additional laboratory method for the diagnosis and prognosis of tuberculous disease, which seems capable of leading to far-reaching results. The work now under review has been carefully prepared by Dr. Robert Lévy, and is accompanied by a preface written by his teacher, Professor Jacques Parisot of Nancy, and dated July, 1929. Professor Parisot, who has charge of the entire tuberculosis service of Nancy, comprising hospitals, sanatoria, and dispensaries, catering for a population of 143,000, arranged that in 1927 Dr. Lévy should spend two months in Paris in order to study Vernes's method under the master himself. Thereafter Lévy worked for two years in Nancy, having unparalleled opportunity for research, with access to every stage and type of the disease. As an introduction to his thesis, Lévy gives a summary of the methods adumbrated by Vernes, and an account of the results obtained by the originator of the method and by numerous of his followers. Lévy then classifies his own results collected from over 4,000 case-sheets, taking as his object the investigation of the blood-sera in different forms of tuberculosis—acute, chronic, latent, etc. After much detailed description, he summarizes his results thus: (1) Tuberculous infection in itself, apart from active disease, does not influence the flocculation of blood-serum. (2) Any active tuberculosis, whether pulmonary, glandular, or of other parts, causes a marked rise in the serum flocculation. (3) Chronic tuberculous lesions give most variable optic densities, sometimes markedly high, sometimes quite low. He concludes that Vernes's reaction, when positive,

¹ "Réaction de Vernes à la Résorcine et Infection Tuberculeuse : Évolutions—Période latente (Vaccination par le B.C.G.)." Par Dr. Robert Lévy, L'Institut D'Hygiène et de Médecine Préventive de Nancy. Préface de M. le Professeur Jacques Parisot. Pp. 163. Paris: N. Maloine, 27, Rue de l'École de Médecine. 1929. Price 20 frs.

signifies the presence of active tuberculosis, and he lays stress upon the fact that by means of the optic density test the actual course of the disease can be followed; for if the blood-serum of a single individual be tested at intervals, a rise in the optic density will show an exacerbation of activity and *vice versa*. Indeed, it is sometimes possible to predict the course of the disease by the variation of the optic densities. Part III of Lévy's paper is of special interest, as it gives the author's experience of the sero-flocculation test applied to individuals previously immunized with B.C.G. vaccine. Immunization is carried out in two ways, according to the age and condition of the patient. Thus, in the newly-born the vaccine is given by the mouth in three doses on alternate days—either the 2nd, 4th, and 6th, or the 3rd, 5th, and 7th days after birth—30 mg. in all, representing approximately one milliard, 200 million micro-organisms. This method is only effective in the first fortnight of life, when the intestinal mucous membrane is still permeable. In all older patients the hypodermic route is used; $\frac{1}{100}$ mg. for infants, $\frac{1}{40}$ mg. for children up to seven years, $\frac{1}{20}$ mg. over seven years of age. Since March, 1927, Professor Parisot of Nancy has vaccinated over 400 persons of all ages by the subcutaneous method. For the purpose of his research Lévy selected only those young patients who had received a single dose of $\frac{1}{100}$ mg. of B.C.G. vaccine—*i.e.*, about 400,000 bacilli. They had all, three months previously, been demonstrated by clinical, bacteriological, and radiological means to be free from tuberculous infection. Those living in contact with tuberculous subjects were removed from the source of infection for three to four months, the period necessary for immunization to become effective. Lévy gives a table referring to forty-six cases, who had received the immunizing dose from one to twenty-four months previously; the mean optic density of their blood-sera proved to be 21, thus showing that the infection of the bacilli had not given rise to any variation in the normal flocculation of the serum of healthy individuals. Lévy rightly suggests that his tentative investigation opens a wide field for research, in order to estimate the period of immunity conferred by B.C.G. and by other immunizing agents in man, as well as in bovine and other animals.

ROSE JORDAN, M.D.

REST CURE IN PULMONARY TUBERCULOSIS.

Dr. M. Jaquerod, of Leysin, points out in his latest work on the treatment of pulmonary tuberculosis that in certain conditions, such as acute pneumonia or a broken leg, rest is compulsory.¹ In the early stages of pulmonary tuberculosis, however, there is no pain or disability sufficient to compel the patient to take to his bed. Yet absolute and prolonged rest is the only cure for the disease. In the case of tuberculosis of a joint the necessity of rest is universally admitted, but in pulmonary tuberculosis (and especially in the early and curable stage when it is most essential) the value of rest is not sufficiently appreciated, and Dr. Jaquerod's little book serves a useful purpose by

¹ "La Cure de Repos dans la Tuberculose Pulmonaire." Par le Dr. Jaquerod, Médecin-Directeur du Sanatorium Grand Hotel, Leysin. Pp. 40, with 33 illustrations. Paris: Masson et Cie, Librairie de L'Académie de Médecine, 120, Boulevard Saint-Germain. 1930. Price 15 frs.

emphasizing that the basis of treatment is rest of the diseased part. Artificial pneumothorax, phrenicotomy, and thoracoplasty are of value only by virtue of the rest given to the lung. Dr. Jaquerod discusses the indications for these special methods of treatment, but points out that many patients recover by simple rest under suitable conditions, and that this should be given a thorough trial before artificial methods of resting the lungs are employed. It is important to remember that rest in bed is not weakening in these cases; in nine out of ten cases failure to obtain a cure is due to an insufficient period of rest. Many cases do not go on to a complete cure but get into a chronic stage or stage of "practical cure," and may then be allowed to take up a light occupation or engage in exercise: but rest should be continued until as complete a clinical cure as possible is obtained. It is not enough to keep a patient in bed until the temperature is normal. The book concludes with a series of skiagrams which are well reproduced and very instructive.

L. S. T. BURRELL, M.D., F.R.C.P.

GERMAN WORKS ON TUBERCULOSIS.

There has recently been issued the second volume of the comprehensive treatise on tuberculosis in children, which has been edited by Professors Engel and Pirquet.¹ It deals with general diagnosis, prognosis, prophylaxis and treatment. The editors have assembled contributions not only from Austrian and German physicians, but also from American, French, and Norwegian authorities. Considerable attention is devoted to tuberculin diagnosis and therapy, and Dr. Maurice Péhu and Dr. André Dufourt of Lyons are informative on the subject of Calmette's prophylactic immunization, and the results of the Grancher system. Dr. Alfred Götzl's comparative study of the statistical evidence of juvenile tuberculosis in different countries is of special interest. A good account is also given of modern orthopædic treatment and its favourable results in bone and joint tuberculosis. The volume is well illustrated. A. S. M.

Dr. Neumann's excellent book on adult tuberculosis has deservedly passed into a second edition.² In these days, when so much attention is given to laboratory tests for the diagnosis of disease, one is glad to read a work like this which stresses the importance of accurate physical examination. Every physician may not be in entire agreement with Dr. Neumann's clinical types of pulmonary tuberculosis; but all can learn from his careful analysis of signs and symptoms. The differential diagnosis is ably done; the section on tumours of the bronchi, lungs, pleura, and mediastinum will well repay perusal. The appendix on X-ray diagnosis by Dr. Fleischner is a concise exposition of a difficult subject. A. S. M.

¹ "Handbuch der Kindertuberkulose" ["Manual of Tuberculosis in Children"]. Edited by Professor Dr. St. Engel, of Dortmund, and Professor Dr. Cl. Pirquet, of Vienna. Vol. II. Pp. x+704, with 170 illustrations, partly coloured. Leipzig: G. Thieme. 1930. Price M. 120.

² "Die Klinik der Tuberkulose Erwachsener" ["The Clinical Manifestations of Tuberculosis in the Adult."] By Professor Dr. Wilhelm Neumann, Lecturer in the University of Vienna. Second enlarged and corrected edition, with an Appendix on "The X-Ray Diagnosis of Tuberculosis of the Lung," by Dr. Felix Fleischner, of Vienna. Pp. xii+484, with 221 illustrations. Vienna: Julius Springer. 1930. Price RM. 36.

It is with a melancholy interest that one opens the last monograph written by the late Clemens Pirquet, whose name is associated for all time with tuberculosis work.¹ An analysis of the English Registrar-General's statistics, together with the author's clinical statistics, led him to the conclusion that each period of life has its own diseases as a manifestation of susceptibility. Here the attempt is made with a wealth of statistics to demonstrate this thesis for malignant disease. The Preface states that Pirquet's work began with research into allergy, and has ended at the threshold of a new and hitherto unexplored field in medicine and biology.

A. S. M.

Drs. Simon and Redeker have issued an excellent German textbook on the subject of tuberculosis in children.² The authors have taken the opportunity of the demand for a second edition to revise and enlarge the work. While special attention is paid to juvenile pulmonary tuberculosis, all forms of tuberculosis are considered, although the space devoted to non-pulmonary tuberculosis is necessarily brief. Modern treatment is ably reviewed. We agree with the opinion here expressed that thoracoplasty must be the last resort in the treatment of pulmonary tuberculosis in the child; it is almost a counsel of despair.

A. S. M.

In the contents of vesicles produced in a severe cutaneous reaction after the injection of tuberculin, it has been stated that substances may be found which augment the intensity of the reaction (procutines) as well as those which diminish its intensity (anticutines). Dr. Hämel's experiments lead him to decide that these substances do not occur with any regularity in the serum (whether active or inactive) of tuberculous and non tuberculous persons, and that no diagnostic conclusions can be drawn from their presence or absence.³

A. S. M.

HELIOOTHERAPY AND ACTINOTHERAPY.

Works dealing with the influence of natural sunlight and artificially produced radiations continue to appear in considerable numbers. Among recent publications reference may here be made to the following:

Dr. Robert Aitken's new work on Ultra-Violet Radiations is dedicated "to sufferers from lupus, for whose benefit this treatment was first introduced, and whose grim lot in life is rarely realised."⁴ Sir Norman Walker, who instituted the first clinic in Scotland for general

¹ "Allergie des Lebensalters: Die Bösartigen Geschwülste" ["Susceptibility in Relation to Age; The Malignant Tumours"]. By Dr. Clemens Pirquet, late Professor in the University of Vienna. Pp. 170, with 142 illustrations and 1 table. Leipzig: Georg Thieme. 1930. Price M. 23.

² "Praktisches Lehrbuch der Kindertuberkulose" ("A Practical Manual of Tuberculosis in Children"), by Dr. Georg Simon and Dr. Franz Redeker. Second edition. Revised and enlarged. Pp. 740, with 412 illustrations and 38 tables in the text. Leipzig: Curt Kabitzsch. 1930. Price RM. 64.

³ "Über die Nachweisbarkeit sogenannter Anti- und Procutine bei Tuberkulösen und Tuberkulosefreien" ("On the Possibility of Demonstrating so-called Anti- and Procutes in Tuberculous and Non-Tuberculous Persons"). By Dr. Josef Hämel, Würzburg. *Würzburger Abhandlungen aus dem Gesamtgebiet der Medizin*, Band VI., Heft 7. Pp. 267-282. Leipzig: Curt Kabitzsch. 1930.

⁴ "Ultra-Violet Radiations and Their Uses," by Robert Aitken, M.D., F.R.C.P.E., Lecturer on Diseases of the Skin, Edinburgh University, etc. With a Foreword by Sir Norman Walker. Pp. 208, with 15 illustrations. Edinburgh: Oliver and Boyd, Tweeddale Court. 1930. Price 10s. 6d.

radiation treatment, in his Foreword testifies that much of the success of the Lupus Clinic in the Royal Infirmary, Edinburgh, has been due to the author's never-failing interest and devotion. The work provides a compact and yet comprehensive survey. The opening chapters deal with historical events, the physics of radiation, the physico-chemical action of ultra-violet rays, biological and pathological effects of light, apparatus, technique and dosage, contra-indications, rules and indications for treatment, and there follow in a series of effectively presented chapters accounts of the application of radio-therapy to affections involving the various regions and systems of the body. The work closes with a chapter dealing with the abuses of radiations, and their success in dentistry, veterinary surgery and poultry farming, the irradiation of foodstuffs, glass permeable to ultra-violet rays, and other matters of practical value. A special chapter is devoted to radiations in the management of tuberculous cases. Reference is made to heliotherapy as developed by Bernhard, Rollier, and Gauvain. It is shown that the surgical treatment of tuberculous glands leaves much to be desired, and that the results of actinotherapy are much more successful. It is pointed out that "the type of gland tuberculosis which yields most readily to radiation treatment is that in which there is a mass of glands all bound together and immobile on the deeper tissues." Regarding mediastinal glands, the opinion is expressed that "ultra-violet radiations administered in slowly increasing doses give, in general, satisfactory results. As the treatment progresses, the cough and respiratory trouble diminish, and X-ray photographs show a diminution in the volume of the glands." The results obtained in bone and joint tuberculosis are said to be very gratifying. With regard to radiation in pulmonary tuberculosis Dr. Aitken surveys the opinions of various observers and concludes thus: "There is a considerable amount of evidence in favour of radiations in pulmonary tuberculosis. Most observers who have given radiations find that the appetite improves, sleep becomes better, and the weight increases. The cough and expectoration lessen, and the temperature begins to settle and the patient to feel better," but adds cautiously that "it is possible, however, that radiations are more suitable for patients resident in an institution than for patients being treated by a doctor at his home." Dr. Aitken also deals with actinotherapy as used for lupus and the employment of radiations in tuberculous lesions involving ear, nose, throat, and eye; renal and genital organs; and foci elsewhere. With regard to the use of glasses permeable to ultra-violet rays Dr. Aitken says: "There can be no doubt that such glasses do allow the rays to pass, but whether or not they are of any real value as regards the health of the population is a different matter. . . . In winter the proportion of ultra-violet rays which get through in our towns is negligible. . . . It has been shown that even in towns a person gets more ultra-violet rays by going out into the direct sunshine during the lunch hour than would be obtained all day behind a window of ultra-violet transmitting glass. . . . It would thus appear that the installation of the special glasses in our houses in towns is a sheer waste of money. . . . In the country, for ordinary purposes of retaining health, such glass is entirely unnecessary." The work is provided with serviceable bibliographical references.

Mr. Leonard V. Dodds has written a useful, readable, popular book, suitable for the general reader, on modern sunlight, to which Sir Oliver

Lodge has provided a commendatory Foreword.¹ The book opens with readily understood expositions regarding the sources, nature, and biological action of light, and is followed by a concise history of the discovery and development of heliotherapy. Then follow simple studies dealing with sunlight in relation to health and the use of sunlight in clinical practice. There are also chapters on the Maintenance of Animal Health, Sunlight and the Growth of Plants, the Irradiation of Foods, the Technical Uses of Ultra-Violet Rays, and the work closes with an enthusiastic appeal for the propagation of what is called Sunlight Knowledge. This is just the kind of book which can be placed in the hands of patients, teachers, health-workers and others interested in the application of nature's powers to the preservation of bodily well-being and the prevention of disorder and disease. It will also be of service to doctors and others engaged in providing instruction for the public. Mr. Dodds has devoted time and trouble to the study of his subject, and he certainly possesses a gift for popular exposition rarely found in those considered masters of light physics and therapeutics. Much interesting scientific data and practical information is presented in a particularly attractive and instructive manner. Unfortunately but few bibliographical references appear, and there is no index. We are assured, however, that this will be remedied in the next edition. Reference is made to the use of sunlight in the prevention and arrest of tuberculosis, and serviceable statistical and other data are provided. The section dealing with the influence of radiations on the health and activities of animals and plants is particularly suggestive and informing, as are the chapters on the irradiation of foods and the application of ultra-violet rays in the conduct of various technical processes. We hope to welcome a new edition at no distant date, and trust that author and publishers will arrange for it to be appropriately illustrated.

Dr. J. H. Kellogg, of Battle Creek Sanitarium, has written a book on physio-therapeutics, in which natural and artificial light is dealt with as hygienic and remedial agents.² The volume contains sections on historical matters, the Physics of Light, and its Physiological Effects, Light Therapy and its Technique, the Use of the Arc Light, the Incandescent Light Bath, and the Employment of the Quartz Light. There are also chapters on Thermotherapy and Clinical Phototherapy. The main aim of Dr. Kellogg's handbook is to emphasize the value of combining and correlating light applications with the use of other physical measures such as hydrotherapy, thermotherapy, the use of electricity, the supervision of dietary and other like appropriate procedures. The author contends that lack of sunshine is the dominant factor in raising the death-rate from tuberculosis: "A large part of the civilized world is living in the shadow and becoming wan and weakened in consequence," but the time has fully come when the whole population should be stirred up to follow the injunction of Holy Writ to "Walk in the light." Dr. Kellogg is an enthusiast; his work is

¹ "Modern Sunlight." By Leonard V. Dodds. With a Foreword by Sir Oliver Lodge. Pp. ix + 322, with 2 figures. London: John Murray, 50, Albemarle Street, W. 1. 1930. Price 7s. 6d.

² "Light Therapeutics: A Practical Manual of Phototherapy for the Student and the Practitioner." By John Harvey Kellogg, M.D., Medical Director of the Battle Creek Sanitarium, etc. Pp. 210, with numerous illustrations. Battle Creek, Michigan, U.S.A.: The Modern Medicine Publishing Co., 46, Washington Avenue. 1928.

stimulating, informing, and helpful, and since the appearance of the first edition in 1910 has exercised a far-reaching influence in America. Many on this side of the Atlantic will find in the text and illustrations of this well-arranged, dogmatically expressed exposition of procedures successfully used at Battle Creek Sanitarium much food for thought and practical material for therapeutic service. The illustrations are particularly instructive, and there is a good index.

THE EXAMINATION OF THE LUNGS.

Dr. A. F. Kraetzer has produced a thoughtful work on procedure in the examination of the lungs and particularly in cases of tuberculosis.¹ The author was formerly chief in the tuberculosis out-patient department of Bellevue Hospital, and assistant adjunct attending in the tuberculosis service of the Bellevue Hospital, and possesses not only an observant eye but a critical and progressive spirit. He has realized the imperfect way in which most medical undergraduates are instructed in the recognition and management of tuberculous disease involving the lungs, and has set himself to aid by providing a simplification of methods and indicating more rational means for arriving at a reliable diagnosis. Dr. Miller, in his commendatory foreword, rightly says: "In many, if not the majority of cases, the diagnosis should be suspected at least, if not really made, from the history alone, and in so many cases does it occur that physical signs are very scanty or absent or perhaps not pathognomonic, that if a student or physician acquires a habit of relying upon physical signs for diagnosis, many mistakes will result"; and he adds very truly, "Too often the criticism of the laity against the profession for failure to make early or correct diagnoses is well founded." Certainly Dr. Kraetzer's well-arranged and concise work deserves unprejudiced consideration by teachers in medical schools, tuberculosis officers, and all who are called to form opinions in regard to lung troubles. Dr. Kraetzer boldly declares that "nothing in medicine is worse done than the early diagnosis of tuberculosis, and one of the factors that contributes to this is, I am sure, the unnaturalness and obscurity of early training." Many will agree that this is true not only as regards America but also this country. The author meets the situation by attempting to lay down an inductive method of teaching that parallels the inductive method of examining each and every case. The book is an unconventional one but highly suggestive, and will prove of much service if it facilitates the earlier diagnosis of pulmonary tuberculosis. The system of technique merits thorough testing, for it promises to develop a well-founded confidence in the clinician. The simple figures provided are instructive. It is a pity there is no index.

CIVILIZATION AND THE CRIPPLE.

Under the title of "Civilization and the Cripple," there has recently been published an informing and generously illustrated work on the

¹ "Procedure in Examination of the Lungs: with Especial Reference to the Diagnosis of Tuberculosis." By Arthur F. Kraetzer, M.D. With a foreword by James Alexander Miller, M.D. Pp. xiv + 125. London: Humphrey Milford, Oxford University Press, Amen House, Warwick Square, E.C. 4. 1930. Price 8s. 6d.

medico-sociological aspects of the problems of the cripple.¹ It should be studied not only by orthopædic surgeons and medical advisers generally, but by all who have sympathy for the cripple and desire accurate knowledge regarding "social orthopædics." The author is Mr. Frederick Watson, founder and editor since 1924 of the international quarterly *The Cripple*, which we regret to learn has just been discontinued. Mr. Watson as County Director of the British Red Cross Society, and Chairman of the Montgomeryshire Voluntary Orthopædic Association, and also formerly as Deputy-Controller in the Appointments Department of the Ministry of Labour has had exceptional experience in dealing with social problems, and has devoted special study to the needs of crippled humanity. His new book is a particularly instructive and serviceable contribution to the literature of the subject of crippledom. It opens with an excellent historical survey, and then follow admirable chapters on The Influence of the War on the Cripple, Education and Training of the Cripple, The American Scheme, Prevention and Rehabilitation, and Limitations of Social Service. The work describes what has been accomplished in the interests of the disabled, but also indicates the difficulties and obstacles which still have to be surmounted. Mr. Watson has provided something which is a real encouragement and stimulus. There are five full-page portraits of pioneers and workers in the cause of the cripple: Hugh Owen Thomas, Joel E. Goldthwait, Dame Agnes Hunt, Miss Eglantyne Jebb, Edgar Allen, and as frontispiece there is appropriately placed an excellent portrait of Sir Robert Jones of Liverpool, to whom the volume is very properly dedicated. There are numerous pictures of centres in this country devoted to the treatment, education, and care of cripples, including the Stanmore Country Branch of the Royal National Orthopædic Hospital; the Wingfield Orthopædic Hospital at Headington, Oxford; the Hospital for Children at Leasowe, Cheshire; the Hospital at Robroyston in Scotland; and the famous Papworth Village Settlement. A serviceable map of England and Wales indicates the areas in which orthopædic schemes have been developed, and is accompanied by a detailed list alphabetically arranged according to counties. All interested in the history of the Cripple Movement in England and Wales will be thankful for the "Landmarks" indicating in chronological order the progress that has been made since 1802. The volume closes with a select bibliography. Such a brief survey of Mr. Watson's notable book will, we trust, be sufficient to indicate that it is one which medical advisers and welfare workers among both children and adults cannot afford to neglect.

THE COTTAGE HOSPITAL.

Major Du-Plat-Taylor, Mr. John Coleridge, and Dr. Johnston Abraham have collaborated to produce a really serviceable guide to Cottage Hospital construction.² Whatever may be the future fate of

¹ "Civilization and the Cripple," by Frederick Watson. Pp. xi + 120, with 34 illustrations, maps, diagrams and appendices. London: John Bale, Sons and Danielsson, Ltd., 83-91, Great Titchfield Street, W. 1. 1930. Price 10s. 6d.

² "Cottage Hospitals," by Major S. M. Du-Plat-Taylor, M.I.C.E., M.I.M.E., John Coleridge, F.R.I.B.A., and J. Johnston Abraham, C.B.E., D.S.O., M.A., M.D., F.R.C.S. Pp. 104, with plans and 22 figures. London: Ernest Benn, Ltd., Bouverie House, 154, Fleet Street, E.C. 4. 1930. Price 12s. 6d.

hospitals in relation to the State or their existing voluntary supporters it is clear that works on hospital building, organization and management will continue to be called for. Even with the establishment of large central complete institutions for the care of every class of sufferer, there will doubtless continue to be a demand in many parts of the country for Cottage Hospitals. For the guidance of such men and women who desire to found such an establishment, and to arrange for its efficient working, the attractive, instructive and thoroughly practical handbook which the House of Benn have issued in particularly artistic form is to be warmly commended. The subject-matter is conveniently set forth in seven chapters dealing with General Considerations, Administration, Design and Construction, Provision of X-ray Appliances, Surgical and General Equipment. The work is an up-to-date presentation of all aspects of the case for a Cottage Hospital, and will be invaluable to those interested in and responsible for the building, conduct, and support of such an institution. Large County Sanatoria are springing up in all parts of the country, but little is being done to provide hospital accommodation in rural districts where near to their own homes advanced consumptives may be properly cared for and prevented infecting members of their own families. It would seem that such a need might be met by the establishment of local hospitals of the cottage type described in the book before us. Medical advisers connected with small County Hospitals will find the illustrated chapter on X-ray apparatus of much practical value. The section on motor and other ambulances should be studied by all doctors and members of hospital committees. Suggestive plans are provided representing the Staines Cottage Hospital, the Haslemere and District Cottage Hospital, and the Tilbury Hospital. By pooling their professional experience in engineering, architecture, and practical medicine and surgery, the authors of this admirable work have provided an authoritative reference book which merits highest praise.

MANUALS FOR MEDICAL ADVISERS AND WORKS OF REFERENCE.

The house of J. Philip Kruseman of The Hague is rendering a notable service to medicine, literature, and art by the publication of a series of monographs edited by Dr. J. G. De Lint under the general designation of "Great Painters and their Works." We have received a copy of the first of the collection.¹ It deals with the work of Rembrandt and has been written by Dr. De Lint. The author has examined the works of the great Dutch artist—paintings, etchings, and drawings—and has noted everything likely to be of interest to members of the medical profession. The work is one which should appeal to doctors the world over. The edition before us is in excellent English, and whilst the text is informing, suggestive, and of exceptional interest, the value of the volume is particularly due to the collection of admirably executed reproductions of Rembrandt's work as it relates to the science and art of healing. The work consists of eleven chapters, and deals with the portrayal of physicians and quacks; recognized Dutch

¹ "Rembrandt." By Dr. J. G. De Lint. Pp. 113, with 64 illustrations. The Hague, Holland: J. Philip Kruseman, Nassauplein 1 B., The Hague, Holland. 1930. Price 10s. or \$2.50.

physicians, including Ephraim Bonus, N. Tulp, Jan Antonides van der Linden, Arnout Tholinx, Jacobus Blok, Jacobus de Wit, and Matthijs Kalkoen; anatomical subjects and dissections and demonstrations on the cadaver; subjects relating to internal medicine; miraculous healings such as the raising of Lazarus and the daughter of Jairus; surgery as exemplified by pictures of the good Samaritan and the rite of circumcision; ophthalmology as evidenced by illustrations of the healing of the blind Tobit; midwifery and pediatrics as expressed in various pictures, including those relating to the Holy Family. Accompanying the concluding chapter are reproductions of Rembrandt's beautiful works—Isaac blessing Esau, painted about 1636; the Death of the Holy Virgin; and the Descent from the Cross. A fine portrait of Rembrandt, 1634, appears as frontispiece. Enumeration of the treasures revealed in Dr. De Lint's finely produced work will, we trust, be sufficient to direct the attention of art-loving doctors to a unique production which it is a pleasure and privilege to possess.

Dr. David Campbell's new book on the essentials of treatment will be welcomed both by students and practitioners.¹ In the medical curriculum therapeutics is badly placed and in most schools imperfectly taught, and it is in post-graduate days that the young practitioner realizes fully the deficiencies in his equipment for a successful practice of the healing art. Dr. Campbell's admirable manual fills in some measure a very real need and furnishes an excellent introduction to the rational treatment of diseased human personalities. The author has aimed at giving the student and young practitioner a reasonable criticism of therapeutic measures, and his advice regarding means for dealing with individual diseases is based on personal observations as well as a thorough study of our common heritage of knowledge. The subject-matter is effectively grouped in twenty-one chapters, opening with chapters on Management of the Patient, The Prescription, Modes of Administration of Medicines, Diet as a Therapeutic Agent, Water as a Therapeutic Agent, Heat and Cold and Climate, Biological Products, Physical Methods of Treatment, and then follow chapters on Specific Infectious Diseases and Diseases involving the various systems of the body. There is a really serviceable section dealing with tuberculosis, opening with a helpful account of prophylaxis and setting forth the fundamental power in the hygienic, climatic and drug treatment of the disease. There are good paragraphs on symptomatic treatment, artificial pneumothorax, the use of tuberculin, and special measures applicable in cases of surgical tuberculosis. The appendix contains a useful list of drugs with their doses. Dr. Campbell's publishers have issued his book in an attractive form and it is excellently illustrated.

Dr. E. M. Brockbank's excellent handbook on cardiac disease has reached its sixth edition and hence may be counted as beyond a reviewer's praise or blame.² It is indeed an excellent introduction to

¹ "Handbook of Therapeutics." By David Campbell, M.C., M.A., B.Sc., M.D., Lecturer in Materia Medica and Pharmacology in the University of Glasgow. Pp. xviii+411, with 72 figs. Edinburgh: E. and S. Livingstone, 16-17, Teviot Place, 1930. Price 12s. 6d.

² "The Diagnosis and Treatment of Heart Disease: Practical Points for Students and Practitioners." By E. M. Brockbank, M.D., F.R.C.P., Hon. Consulting Physician, Royal Infirmary, Manchester. Sixth Edition. Pp. xiv+240, with 35 illustrations, including 3 plates. London: H. K. Lewis and Co., Ltd., 136, Gower Street, and 24, Gower Place, W.C. 1. 1930. Price 7s. 6d.

cardiology for senior students and young practitioners, providing essential points, particularly as regards diagnosis, in a concise and serviceable way. The greater part of the book is devoted to diagnosis, but there are helpful sections on treatment. The present edition contains new chapters on Angina Pectoris and Aneurysm. There are also excellent chapters on The Heart in School Children and Examination for Life Assurance. In the next edition it would be wise to present a full description of the electro-cardiograph and its uses, together with detailed guidance regarding prognosis in all forms of cardiac disorder and disease. The illustrations might be increased with advantage.

Dr. Donald Patterson's new handbook on the diseases of children is an ideal introduction to the study and care of young subjects.¹ It provides in concise, lucid, well-arranged form the essentials of up-to-date pediatrics. All aspects of the disorders and diseases of infancy and childhood are considered, but, as is desirable in a practical manual, special stress is laid on diagnosis and treatment. The chapter devoted to tuberculosis is in every way admirable, presenting an excellent survey of the disease generally, followed by descriptions of the various clinical forms, pulmonary, abdominal, glandular, bone, etc. An illustrated account is given of the Intracutaneous or Mantoux Tuberculin Diagnostic Test, with details regarding technique. In the chapter dealing with diseases of the nervous system there is an excellent account of tuberculous meningitis. We have nothing but praise for this comprehensive yet condensed epitome of pediatrics, and commend it to the consideration of senior students and young practitioners. We would suggest that every Tuberculosis Officer should secure a copy, for it will be invaluable in assisting in the difficult art of diagnosis, which in tuberculosis dispensaries and elsewhere is beset with difficulties. Dr. Paterson has drawn largely on his experience at Great Ormond Street, and has wisely illustrated his book with many instructive photographs, radiograms, and charts. Moreover, there is an unusually complete index. The publishers have produced the volume in the splendid form which we expect from the House of Cassell.

Dr. Percy Hall has provided a simple, concise panoramic survey of asthma and a practical account of its treatment in a form which will be of interest not only to the busy medical practitioner but of assistance to many asthmatic sufferers.² He claims that the physiotherapeutic measures and other methods advocated are based upon personal experience. The work opens with a short but excellent survey of the aetiology and symptomatology of this mysterious and distressing symptom-complex. The chapters devoted to the exposition of the hygienic and therapeutic management of asthmatic subjects are well planned and really serviceable. There is a good section on Diet. The author considers diathermy of value in many cases, and he is a strong advocate of actinotherapy. A number of Case Histories appear at the end of the book.

Directors of clinical pathology laboratories and pathologists gener-

¹ "Sick Children: Diagnosis and Treatment." A Manual for Students and Practitioners. By Donald Paterson, B.A., M.D., F.R.C.P., Physician to Out-Patients, the Hospital for Sick Children, Great Ormond Street; Physician for Diseases of Children, Westminster Hospital. Pp. 538, with 16 half-tone plates and 85 figures in the text. London: Cassell and Co. Ltd. 1930. Price 16s.

² "Asthma and Its Treatment." By Percy Hall, M.R.C.S., L.R.C.P. Pp. ix+130. London: William Heinemann (Medical Books), Ltd. 1930. Price 7s. 6d.

ally should secure a copy of the new edition of the admirable pocket-size, compact manual on laboratory methods as employed in the United States army.¹ Many American army experts in the medical service have contributed to the work. There are twelve parts, and among them are sections dealing with Clinical, Pathological, General, and Special Bacteriological Methods; Chemical and Bacteriological Examination of Water, Sewage, Milk, Butter, Meat, etc.; Examination of Alcohols; Preparation of Dakin's Solution and other Chlorine Disinfectants; and Drinking Water Sterilization. There are also excellent chapters on Protozoological, Helminthological, Entomological, and Gross and Microscopic Pathological Methods. The concluding part deals with Veterinary Laboratory Methods. Such an enumeration of the chief contents of this comprehensive guide and directory will be sufficient to indicate the importance of the book. It is admirably printed on thin India paper, and is provided with an excellent index.

Dr. B. S. Kanga has compiled a little work on tuberculosis intended apparently for the instruction of medical students and the direction of medical practitioners in India.² Reference is made to the great prevalence of pulmonary tuberculosis amongst Mahomedan women in India, and the opinion is expressed that "undoubtedly the strict zenana (purdah) system amongst the females of the Mahomedan community deprives them of the two vital natural factors, 'fresh air and sunshine,' and thereby lowers their natural powers of resistance to disease, particularly amongst the poorer classes." The work is mainly a compilation drawn from well known British works on tuberculosis, affording in concise, condensed, serviceable form the fundamental facts relating to the pathology, diagnosis, and treatment of tuberculosis as it affects the various regions of the body. Such a book as this, if circulated throughout India, should do much to further the development of a comprehensive and sane anti-tuberculosis movement.

Professor Elliott P. Joslin's practical guide to the management of the diabetic subject is now in its fourth edition.³ It is a work which every medical adviser having to deal with cases of diabetes should study. In the care of a diabetic subject there must be intelligent and loyal co-operation between doctor, nurse, patient, and friends if the best results are to be attained. Dr. Joslin's handbook goes far to make this possible. It is a practical exposition of all points relating to the hygienic, dietetic, and therapeutic management of a diabetic subject set forth in so lucid, direct, and sensible a form that any intelligent man and woman with the guidance of his or her medical adviser can readily

¹ "Laboratory Methods of the United States Army." Edited by Charles F. Craig, M.A., M.D., Colonel, Medical Corps, United States Army. Third edition, revised. Pp. 696, with 10 figs. and 80 tables. Philadelphia: Lea and Febiger, 600, S. Washington Square. 1929. Price \$3.50. It is approved by the Surgeon-General of the U.S.A. Army, and is No. 6 in the Medical War Manual Series.

² Handbook on Tuberculosis. By B. S. Kanga, M.D., D.P.H., Medical Officer, Turner Dispensary, and Visiting Medical Officer, Turner Sanatorium, Bombay Municipality. Pp. viii+150, with illustrations. London: John Bale, Sons and Danielsson, Ltd., 83-91, Great Titchfield Street, Oxford Street, W. 1. 1930. Price 5s.

³ "A Diabetic Manual for the Mutual Use of Doctor and Patient." By Elliott P. Joslin, M.D., Clinical Professor of Medicine, Harvard Medical School. Fourth edition, thoroughly revised. Pp. 248, with coloured frontispiece, 36 tables, and 48 figs. Philadelphia, U.S.A.: Lea and Febiger, Washington Square. 1929. Price \$2.00.

understand. The tables, recipes, and illustrations form important elements in this ideal guide book. Tuberculosis officers and medical superintendents of sanatoria should always make a point of examining the urine for sugar and considering the question of diabetes in every subject sent to them for examination and treatment. Not a few patients progressively wasting with supposed tuberculosis are primarily diabetic cases, and, as is well known, tuberculosis often develops rapidly in imperfectly treated patients with diabetes.

Dr. Peyton Rous has issued his Linacre Lecture for 1929, "The Modern Dance of Death," in a dainty booklet the cover of which presents a picture of Hollar's engraving of Holbein's beautiful painting of "The Physician."¹ The lecturer discusses actions and reactions within the diseased organism and considers how far such may have altered since the days of Linacre when artists were wont to portray in picture form man's dance with death. It is shown that we live now more than twice as long as did persons in Linacre's time: we have to look forward to the development of a new science of dying, knowledge and grace to supplement the difficult art of living. Dr. Rous's brilliant and suggestive lecture should be read by everyone interested in the science and art of medicine.

Dr. J. Sim Wallace has for long been a pioneer in the study and exposition of the causes of dental disease and the influence of disorders of the teeth on the general health of human individuals. Many who have benefited from his work will be glad to secure a copy of his latest book.² It consists mainly of a collection of articles which in their original form appeared in various medical periodicals together with records of discourses delivered by the author in the course of his lecture tour in America. Some idea of the value and scope of this notable work can be best indicated by giving a list of the chief contents: The Physiology of Oral Hygiene, Vitamins and Dental Hypoplasia, Food and Feeding in Relation to the Diseases of the Teeth, The Progress of Preventive Dentistry, Preventive Dentistry in England and Our Debt to the Dental Profession of America, Recent Medical and Dental Research on Diet and Accessory Food Factors in Relation to the Prevention of the Diseases of the Teeth, Diet and Dental Caries in America, Dental Research, Medico-Dental Research, Research on Enamel and the Incidence of Dental Caries, and Obstacles in the Path of Progress in the Prevention of Dental Caries. The importance of recognizing the influence of oral sepsis and dental disease in cases of tuberculosis, especially the pulmonary type, cannot be overestimated, and we therefore urge tuberculosis officers, medical superintendents of sanatoria, and others responsible for the care of tuberculous cases to give special heed to Dr. Wallace's suggestive, informing and serviceable book. We trust that the next edition will be provided with an index.

Dr. F. H. Richardson and Miss Winifred J. Hearn have prepared a novel but serviceable book on constructive games and corrective exercises

¹ "The Modern Dance of Death." By Peyton Rous: The Linacre Lecture, 1929. Pp. 51. Cambridge: The University Press, 1929. Price 2s. 6d.

² "The Physiology of Oral Hygiene and Recent Research with Special Reference to Accessory Food Factors and the Incidence of Dental Caries," by J. Sim Wallace, D.Sc., M.D., L.D.S., Lecturer in Preventive Dentistry, King's College Hospital. Second edition. Pp. vii + 228, with 7 figures. London: Baillière, Tindall and Cox, 1929. Price 10s. 6d.

for pre-school, "run-about" children of from two to six years of age.¹ In early days young children usually receive but little instruction as to proper habits of standing, walking, and sitting, and prejudicial postures are often established unnoticed, hindering proper development, and such as tend to establish morbid conditions, engender a poor standard of health, and are frequently predisposing to tuberculosis. By ingenious methods the authors seek to prevent the production of physical defects in early life through improper carriage and imperfect posture. The feet not infrequently need special consideration. The system through organized play and individual games is explained in detail, and is effectively illustrated. The book, based on articles which appeared in the *Trained Nurse and Hospital Review*, should be studied by parents, nurses, teachers, and all who have the care of young children, for it is written in simple, everyday language, which all can understand. We particularly commend the volume to those who in hospitals, open-air schools, and elsewhere seek to develop little children of poor physique and to correct defects which have already occurred.

Mr. Herbert L. May and Miss Dorothy Petgen have compiled an instructive work on Leisure which, while containing suggestions for people of all nations, merits the special attention of doctors and those who have to interest, help, and control patients in hospitals, sanatoria, and elsewhere.² The volume is the outcome of studies carried out in the United States and Europe by trained and experienced American observers under the auspices of the Playground and Recreation Association of America. The information collected in this country, France, Germany, Belgium, Denmark, Czecho-Slovakia, Austria, and Italy is set forth in an attractive and instructive manner, which merits the attention of all seriously interested in the provision of leisure and its effective employment, and in the development and regulation of all kinds of recreation. An important article on Recreation in the United States appears as a supplement. It is disappointing to find that so admirable a collective international study should be minus an index.

Mr. Frederick J. Gould has written many inspiring books for children, young people, parents, teachers, and lovers of beauty, and his latest collection of studies is charming and uplifting.³ It tells of the glories of Nature, the grace and splendour of country scenes, the evolution of historic buildings, crafts, folk songs and dances, the growth of gardens and garden-cities, and the moral, artistic, literary, and scientific accomplishments of notable personalities who have dedicated their lives and powers to "this blessed plot, this earth, this realm, this England." Here is a rich treasure-house of life's best gifts.

¹ "The Pre-School Child and his Posture: A Programme of Corrective Exercises through Games," by Frank Howard Richardson, A.B., M.D., F.R.C.P., and Winifred Johnson Hearn, B.S. Instructor in Physical Gymnastics, Brooklyn Visiting Nurses Association. With a Foreword by Jesse Feiring Williams, M.D., Professor of Physical Education, Teachers' College, Columbia University. Pp. xi+220. with 41 figures. London: G. P. Putnam's Sons, the Knickerbocker Press, 24, Bedford Street, Strand, W.C. 2 1930. Price 10s. 6d.

² "Leisure and its Use: Some International Observations," by Herbert L. May and Dorothy Petgen. Pp. xx+268 New York: A. S. Barnes and Co, 67, West 44th Street. 1928. Price \$2.00.

³ "This England, and Other Things of Beauty." By Frederick J. Gould. With Introductory Notes by H. H. Peach and Professor W. R. Leathaby. Pp. xiv+177, with 27 Illustrations. London: Watts and Co., 5 and 6, Johnson's Court, Fleet Street, E.C. 4. 1930. Price 5s.

Motorists seeking health and restorative holidays in Scotland should secure a copy of the volume in which are reprinted, with maps and illustrations, forty-four tours as originally published in the *Glasgow Herald*.¹ These sketches not only describe routes, but present interesting historical, literary, and other notes.

Switzerland steadily increases in popularity as the playground of Europe and one of nature's most highly favoured health resorts. British visitors seeking recreation and restoration still flock in large numbers to this wonderland. For tuberculous and tuberculously disposed subjects Switzerland offers exceptional advantages. Its special climatic stations and sanatoria certainly provide benefits which large numbers of patients from all parts of the world are glad to avail themselves of. Among the numerous guide-books to Switzerland, the most recent, up-to-date, and generally serviceable is the compact, comprehensive, and handy volume edited by Mr. Findlay Muirhead, and issued by Messrs. Macmillan and Co. in the famous Blue Guide International Series, Muirhead Guide-Books Ltd., 21, Lower Belgrave Street, S.W. 1.² The work may be considered as a form of British Baedeker, for, printed on thin India paper and accompanied by an abundance of maps, it provides all information which the English-speaking health seeker and holiday maker can desire. There are special articles on Swiss history, art in Switzerland, books about the country, mountaineering, motoring, shooting, fishing, and winter sports, and numerous notes relating to practical matters. There is an admirable index. We would suggest that in the next edition an authoritative account of the chief health stations and most important sanatoria, especially such as are specially suitable for British subjects, might be added with advantage. Certainly Mr. Muirhead's excellent Blue Guide should be in the hands of all medical advisers sending patients to Switzerland, and all others visiting Switzerland only need to see the volume to realize that it is an indispensable one.

¹ "Motor Touring in Scotland." Illustrated with Road Maps and indexed on General Map. Pp. 236. Glasgow: George Outram and Co., Ltd., 65, Buchanan Street. 1930. Price 2s.

² "Switzerland, with Chamonix and the Italian Lakes." Edited by Findlay Muirhead. Second edition. Pp. lxii+508, with 78 maps and plans. London: Macmillan and Co., Ltd., St. Martin's Street, W.C. 2. Paris: Librairie Hachette, 79, Boulevard St. Germain VI^e. 1930. Price 15s.

PREPARATIONS AND APPLIANCES.

HYGIENIC APPLIANCES AND THERAPEUTIC PREPARATIONS.

THE MOSELEY FLOAT-ON-AIR PNEUMATIC BEDS AND OTHER SPECIALITIES meet a real need.¹ These ingeniously constructed cushions and bed appliances are likely to replace water-beds and the older types of upholstery. For hospital and sanatorium equipment and for ambulance and stretcher use the float-on-air novelties will prove invaluable. The mattresses, both in form and construction, provide a new and effective bed equipment. They consist of tubes arranged in folds running lengthwise with the bed, afford a soft, yielding couch, which supports,



THE MOSELEY FLOAT-ON-AIR BED-REST.

eliminates jars, and provides the maximum of comfort and repose. The pneumatic bed is also available in folding types suitable for camping, and there are bolster-sided stretcher-beds admirable for ambulances. The float-on-air bed-rests will be a boon to many patients, and we would particularly commend them for the use of consumptive and other bed-fast cases. The accompanying figure indicates the chief features of this most desirable support and bed-rest.

THE "WELCO" ALL-STEEL SWING AND GYMNASIUM SET only needs to be known to be appreciated.² It is an ideal equipment for every home, school, and institution where children are to be found. This novelty is of British manufacture throughout. It is constructed on

¹ An illustrated catalogue of the Moseley Float-on-Air Specialities can be obtained on application to the manufacturers, David Moseley and Sons, Ltd., Chapel Field Works, Ardwick, Manchester.

² Full particulars regarding the "Welco" All-Steel Swing and Gymnasium Set can be obtained on application to Welch's Patents, 176, Victoria Road, Aston, Birmingham; or from the London Offices, at 49, Queen Victoria Street, E.C. 4.

sound lines, is composed entirely of steel, and there are no ropes to rot and break. It stands 7 feet high and is 4 feet 6 inches wide. The seat is covered with rexine cloth. The equipment can be used as a swing or as a trapeze and gymnasium outfit. This substantial, effectively designed, reliably constructed appliance will bring endless delight to youngsters, and will go far in assisting to develop physical powers among enfeebled, backward, and delicate children. The manufacturers have presented an outfit to the sanatorium of the National Children's Home at Harpenden, where it can be seen in daily use. (The price complete is £3.)

THE "STRONGLITE" METAL FOLDING CHAIR is one which we can strongly recommend for use in connection with sanatoria, hospitals, open-air schools, as well as for service in gardens, on the deck of ships, and elsewhere.¹ It possesses definite advantages over the ordinary forms of wooden chair. The "Stronglite" is made of steel, and has a coloured enamel surface, and is therefore strictly hygienic, allowing for thorough cleansing and the use of a suitable disinfecting agent. Moreover, the chair is scientifically designed, and is particularly comfortable for patients and delicate persons. It can be folded up readily and then occupies but little space, a great convenience when many chairs have to be dealt with at the end of a day or with the oncoming of unfavourable weather. The chair is pleasing in appearance, strong in construction, durable, and easily portable.



THE "STRONGLITE"
FOLDING CHAIR.

THE RICHMOND HEAD-REST, which has been available in stuffed forms for some time, can now be obtained in several varieties of pneumatic collapsible models.² We have used one of these head-rests with much satisfaction. For luxury lovers, motorists, travellers by land and sea, brain workers, listeners-in on wireless outfits, and other sound folk, it is an acceptable addition to the comforts of life, and for convalescent and sick people it will be a boon. For many consumptives and other tuberculous subjects who have to rest in the open it will be particularly helpful. Indeed, for almost all classes of patient a pneumatic Richmond head-rest will be a welcome present. (The prices range from 21s. 6d. to 32s. 6d.)

THE RICHMOND SEAT CUSHION goes far to insure rest and a relief from stress, strain, and tension for all classes of patients and every lover of ease and comfort.³ For convalescents, invalids, and many sick folk this ingeniously contrived cushion will be a real boon. By the use of this cushion any seat, whether a chair or a place in a motor or elsewhere, can be converted into a soft, protecting, restful seat. The principle of the novelty is quite simple, and is based on a recognition of anatomical and physiological facts. The forward edge of the cushion curves upwards, and forms a roller-ridge, which acts as

¹ The "Stronglite" Metal Folding Chair is manufactured by Cox and Co., 135, Lower Richmond Road, and Felsham Road, Putney, S.W. 15.

² Particulars regarding the various varieties of Richmond Head-Rest can be obtained on application to Feans, Ltd., 71, High Holborn, W.C. 1.

³ Particulars regarding the varieties of Richmond Seat Cushions can be obtained on application to Feans, Ltd., 71, High Holborn, W.C. 1.

a fulcrum under the knees, allowing for the comfortable support of both lower limbs. (The price, according to material and colour, ranges from 13s. 6d. to 33s. 6d.)

THE "TRAVEL AID" OR "T.A." BAG is a practical novelty which will appeal particularly to women, but it will also be invaluable to patients in sanatoria and elsewhere who desire to keep books, papers, needlework, and the like at hand in a convenient, light, portable hold-all.¹ It is so constructed that the compact handbag, by releasing two patent fasteners, is at once converted into a capacious receptacle. There is a separate compartment for handkerchief, etc. (The price is 6s. 6d.)

THE "ECLIPSE" SAFETY RAZOR BLADES are of Sheffield manufacture and constructed from high-class crucible steel which takes and retains a keen cutting edge.² They are prepared under scientifically controlled conditions, individually inspected and guaranteed. We can thoroughly recommend these blades, not only for ordinary use, but for service in hospitals and sanatoria and other institutions where a safety shaving equipment is employed. (The price is five for 1s. 8d. and ten for 3s. 4d.)

THE EXCO DUST AND DRAUGHT EXCLUDER is a simple contrivance which can be automatically adjusted to doors of any size for the exclusion of troublesome draughts.³ (The price is 3s. 6d.)

THE "QUIXIE" CLEANING AND POLISHING CLOTHS will be appreciated not only in private houses, but in hospitals, nursing homes, and institutions of all kinds, as well as for individual use, and the care of material goods, motor-cars, and the like.⁴ They are available in a series of six, each having a distinguishing colour, and consisting of a special soft cloth, which is impregnated with substances, and which both cleanses and polishes when employed in a dry state. (The price of a household set is 4s. 6d.; a complete motor set, 6s. 6d.)

HAMMOCKS are excellent resting-places, not only for the delicate and sick, but for holiday-makers and those who in their own gardens and elsewhere enter into the delights and benefits of an open-air life. A particularly strong and excellent form of camp hammock is supplied by Messrs. Blanks, the well-known providers of tents and camping equipment. Each hammock is constructed of extra strong, durable, white canvas of best quality, and is equipped with strong hemp ropes all ready for use. We commend these excellent hammocks to the attention of those who are responsible for the care of patients in sanatoria and open-air schools, as well as to garden-lovers and others. (The price is 9s. 6d. each; three for 30s., post paid.)⁵

THE SOVEREIGN JUNIOR HAND SPRAYER is a small, compact, convenient appliance specially suitable for household service in disin-

¹ The "Travel Aid" or "T.A." Bag is supplied by Feans, Ltd., 71, High Holborn, W.C. 1.

² The "Eclipse" Safety Razor Blades are made by James Neill and Co. (Sheffield), Ltd., Composite Steel Works, Napier Street, Sheffield.

³ Particulars of the Exco Dust and Draught Excluder can be obtained from the manufacturers, "Exco" Ltd., 4, Butler Street, E.C. 2.

⁴ Particulars regarding the "Quixie" Cleaning and Polishing Cloths can be obtained from the manufacturers, the Quixie Company, Ltd., 59, Lonsdale Road, West Kilburn, N.W. 6.

⁵ The Camp Hammocks are supplied by Messrs. Blanks, 303, Gray's Inn Road, King's Cross, W.C. 1, from whom particulars can be obtained regarding all forms of camping outfits.

fecting and deodorizing rooms, and it is particularly useful for the destruction of flies and insect pests. It is $1\frac{1}{2}$ inches in length, and the capacity of the reservoir is $\frac{3}{4}$ pint. Large sizes are available for use in



THE SOVEREIGN JUNIOR HAND SPRAYER.

hospitals and sanatoria, and for horticultural and other purposes, constructed of tinfoil, galvanized or japanned, brass, and copper.¹

THE CARMEN SAFETY RAZOR is one which doctors and nurses will approve for use by patients in hospitals, sanatoria, and nursing homes, as well as elsewhere.² It will also be appreciated for hygienic, cosmetic, and surgical purposes. For the safe removal of superfluous hair it is an ideal agent. The curved shields are so shaped and arranged as to provide thorough protection, and insure effective service when employed on delicate parts. (The price, with set of seven blades, is: Gold-plated, 12s. 6d.; silver-plated, 10s. A packet of six blades costs 2s. 6d.)

THE "PERFECTOS" CIGARETTES, issued by the Imperial Tobacco Company (of Great Britain and Ireland), Limited, and manufactured at Nottingham, are finding much favour with doctors and others desiring a reliable brand of Virginian-grown tobacco. The cigarettes are of convenient size and are available in two forms.³

THE "PERFECTION" FORMALDEHYDE FUMIGATOR provides a convenient and effective means for the disinfection of apartment school-rooms, hospital wards, railway cars, public conveyances, etc.⁴ It consists of a metal base containing formalin preparation, which is vaporized by means of a charcoal cone, which on being ignited burns with a steady glow. This fumigator will be of service in dealing with places which have been occupied by consumptive and other tuberculous subjects.

SOLUGA⁵ is essentially a concentrated food, containing vitamins A, B, D, and E, blood-forming and regenerating hormones, nerve-forming substances, glucose, galactose, and compounds of iron, calcium, magnesium, and phosphorus. It is also said to contain Bulgarian yoghurt, together with the anti-scorbutic vitamins of natural lemon-juice. This preparation promises to be of much service in the treatment of tuberculous disease and other conditions of malnutrition and nervous exhaustion. (The price of each tin is 3s.)

GLYCOLA PREPARATIONS are admirable cosmetic and hygienic applications for the protection of cutaneous surfaces and the main-

¹ Particulars regarding the Sovereign Sprayer can be obtained from the makers, Testar and Swan, Ltd., Florence Works, Pritchett Street, Birmingham.

² The Carmen Safety Razor is supplied by the Carmen Company (Harpic Manufacturing Company, Ltd.), 10, Staple Street, S.E. 1.

³ Full particulars regarding the "Perfectos" Cigarettes can be obtained from the manufacturers, John Player and Sons, Nottingham.

⁴ The "Perfection" Formaldehyde Fumigator is one of the Seabury and Johnson preparations, made by Seabury and Johnson of New York. Full particulars and prices can be obtained from the British distributors, Fassett and Johnson, Ltd., St. John's Gate Buildings, 86, Clerkenwell Road, E.C. 1.

⁵ Soluga is supplied by Savory and Moore, Ltd., 143, New Bond Street, W. 1; and John Bell and Croydon, 50-52, Wigmore Street, W. 1.

tenance of a healthy skin.¹ For patients undergoing open-air treatment and those taking sun and air baths Clark's glycola is invaluable. It provides a defence from the injurious action of the sun's heat rays and from winter's winds, and can be used with advantage after sea-bathing, shaving, and for chapped hands, and also as a protection against insect bites. Glycola Soap is an excellent soap for both the sick and the sound; it is a high-class, triple-milled cleansing agent, which also softens hard water and keeps the skin in perfect condition.

POND'S PREPARATIONS are particularly serviceable for those who are living an open-air life or taking sun and air baths in a sanatorium or elsewhere.² The Cold Cream, Vanishing Cream, and other specialities provide elegant scientifically devised local applications for the face, hands, and other parts of the skin which require particular care if the cutaneous surfaces are to be kept in a healthy condition and properly protected from irritants and other prejudicial influences. Pond's Extract has for long been popular in America and in this country. It owes its beneficial action mainly to the presence of a preparation of Hamamelis, commonly known as witch-hazel. This possesses hæmostatic, astringent, anodyne and antiseptic properties.

ROSEOMAR PERFUMED DISINFECTANT is a new preparation which doctors, nurses, patients, and others will be glad to welcome, particularly for use in the management of certain cases.³ Formaldehyde forms the basis, and is said to possess good germicidal powers even when diluted 1 in 60 with water. Remaining soluble in water, it provides an excellent application in spray form. Roseomar is perfumed with attractive oils, the specimen sent us having a delightful odour of lavender. It is a preparation which can be safely used for a number of purposes, including the dispersal of stale tobacco smoke, protection from flies, gnats, mosquitoes, and other pests, and freshening of the sick-room; for use in baths, and for inhalation in cases of catarrhs as well as for toilet purposes, where a safe and pleasant disinfectant and deodorant is desired.

JOHNSON'S LYSOL is a reliable preparation for medical, surgical, and domestic use.⁴ It contains 50 per cent. of cresols, has a high Rideal-Walker coefficient, is free from alkalinity, and produces no irritation, and, moreover, is completely soluble in water.

¹ Particulars regarding the Glycola preparations can be obtained on application to Clark's Glycola Company, Ltd., Oak Grove, Cricklewood, N.W. 2.

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⁴ Johnson's Lysol is manufactured by Johnson and Sons, Hendon, from whom specimens and particulars can be obtained on application.

THE OUTLOOK.

THE RESEARCH DEPARTMENT OF THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON, LONDON.

A RESEARCH department has been established in connection with the Brompton Hospital for Consumption, and we have been favoured with the following note from Dr. W. Ernest Lloyd, the registrar of the hospital.

Research work is being carried out by one full-time research worker and one part-time worker. Investigations are conducted under the direction of the Research Committee, which is a sub-committee of the medical staff of the hospital. At the present time tuberculosis in children is being investigated, and the first publication on "Tuberculosis Mortality in Children" appeared last May. This work included an investigation into the fate of 1,192 children under five years of age, the offspring of parents who had attended the Brompton Hospital as patients. The work is now being continued by investigating the incidence of tuberculous infection and its intensity in children up to fifteen years of age: (a) in children exposed to tuberculosis in their own homes; and (b) in children not so exposed to apparent tuberculous infection. The work is being carried out by means of a grant from the Halley-Stewart Research Fund. The following are the conclusions set forth in the 32-page brochure, "Tuberculosis Mortality in Children" (a copy of which may be obtained on application):

1. During the past thirty years there has been a great fall in the mortality rates due to tuberculosis in this country.

2. This fall has been greater in children under the age of five years than at any other period of life.

3. At the present day the greatest mortality from tuberculosis is in the 20-25 year age group.

4. The mortality figures for tuberculosis for England and Wales from the year 1898 to 1927 have fallen by:

- (a) 86 per cent. in children under one year of age.
- (b) 75 per cent. in children up to five years of age.
- (c) 67 per cent. in children between one and five years of age.
- (d) 47 per cent. in children between five and ten years of age.
- (e) 35 per cent. in children between ten and fifteen years of age.

5. The mortality figures for all causes during the same period have fallen by:

- (a) 56 per cent. in children under one year of age.
- (b) 63.5 per cent. in children up to five years of age.
- (c) 58 per cent. in children between one and five years of age.
- (d) 39 per cent. in children between five and ten years of age.
- (e) 31.8 per cent. in children between ten and fifteen years of age.

6. When taken in proportion to the mortality rate due to all causes, tuberculosis is a much less frequent cause of death in children under five than in children between five and fifteen years of age. Of all deaths under one year of age in 1898, 4.78 per cent. were due to tuberculosis. In 1927 the figure had fallen to 1.55 per cent. This marked fall is not seen in the later age groups, the corresponding figures for the 10-15-year age group being 23.45 per cent. and 22.63 per cent.

7. At the present day tuberculous meningitis is by far the most fatal form of the disease in early childhood.

8. In children under the age of five years between the years 1898 and 1927:

(a) The death-rate from abdominal tuberculosis has fallen by 89 per cent.

(b) The death-rate from tuberculous meningitis has fallen by 62 per cent.

(c) The death-rate from pulmonary tuberculosis has fallen by 64 per cent.

(d) The death-rate from other forms of tuberculosis has fallen by 77 per cent.

9. Where there is contact with tuberculosis, few children fail to react to tuberculin within the first few years of life. Where there is no known contact with tuberculosis, the frequency of positive tuberculin reactions increases gradually from infancy to adult life. We are undertaking an investigation of this problem with a view to finding out if it is true for the average working-class population.

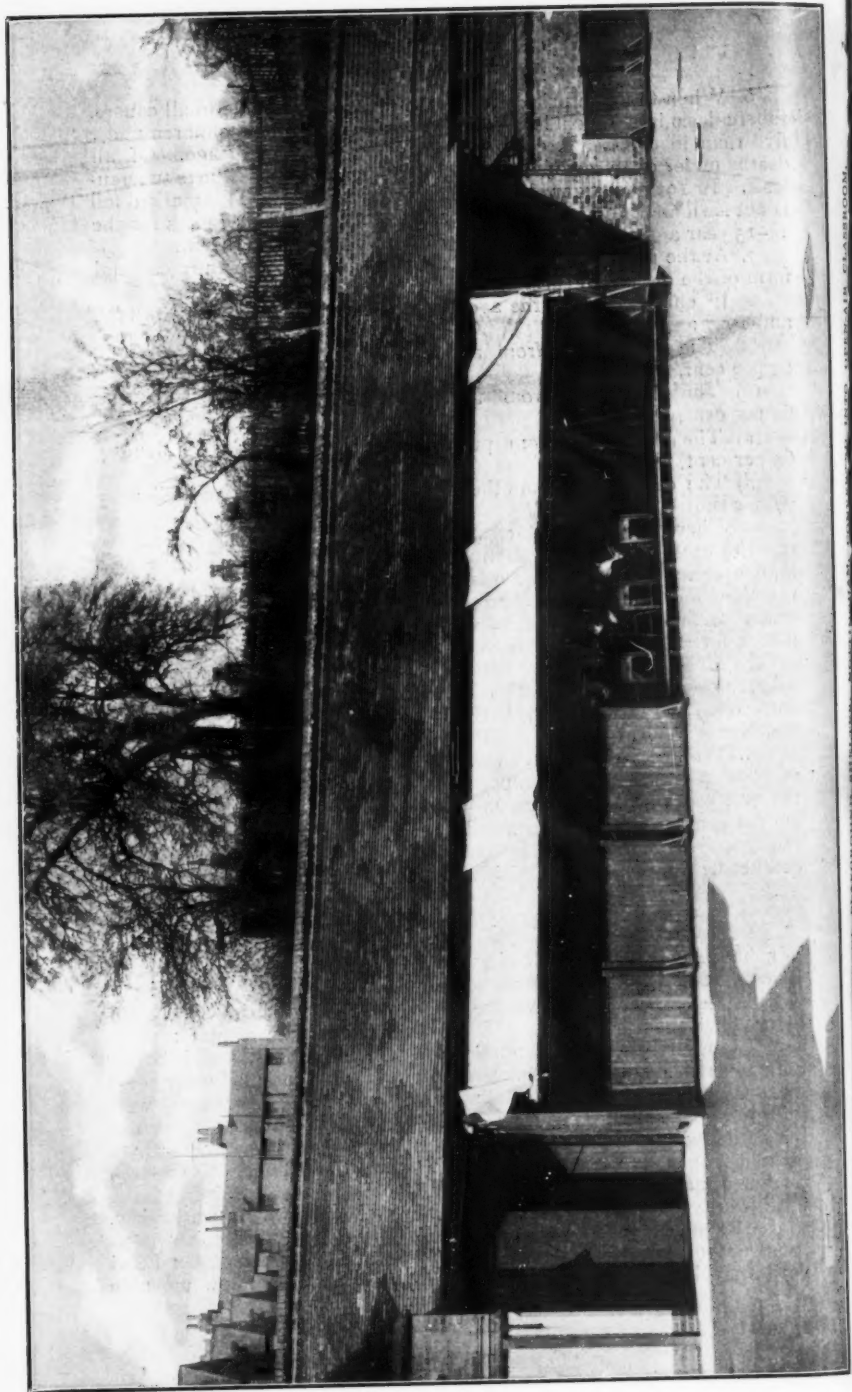
10. Most writers agree with the view that more children die of tuberculosis when born of tuberculous parents or brought up in contact with open tuberculosis than children who are not so exposed to infection.

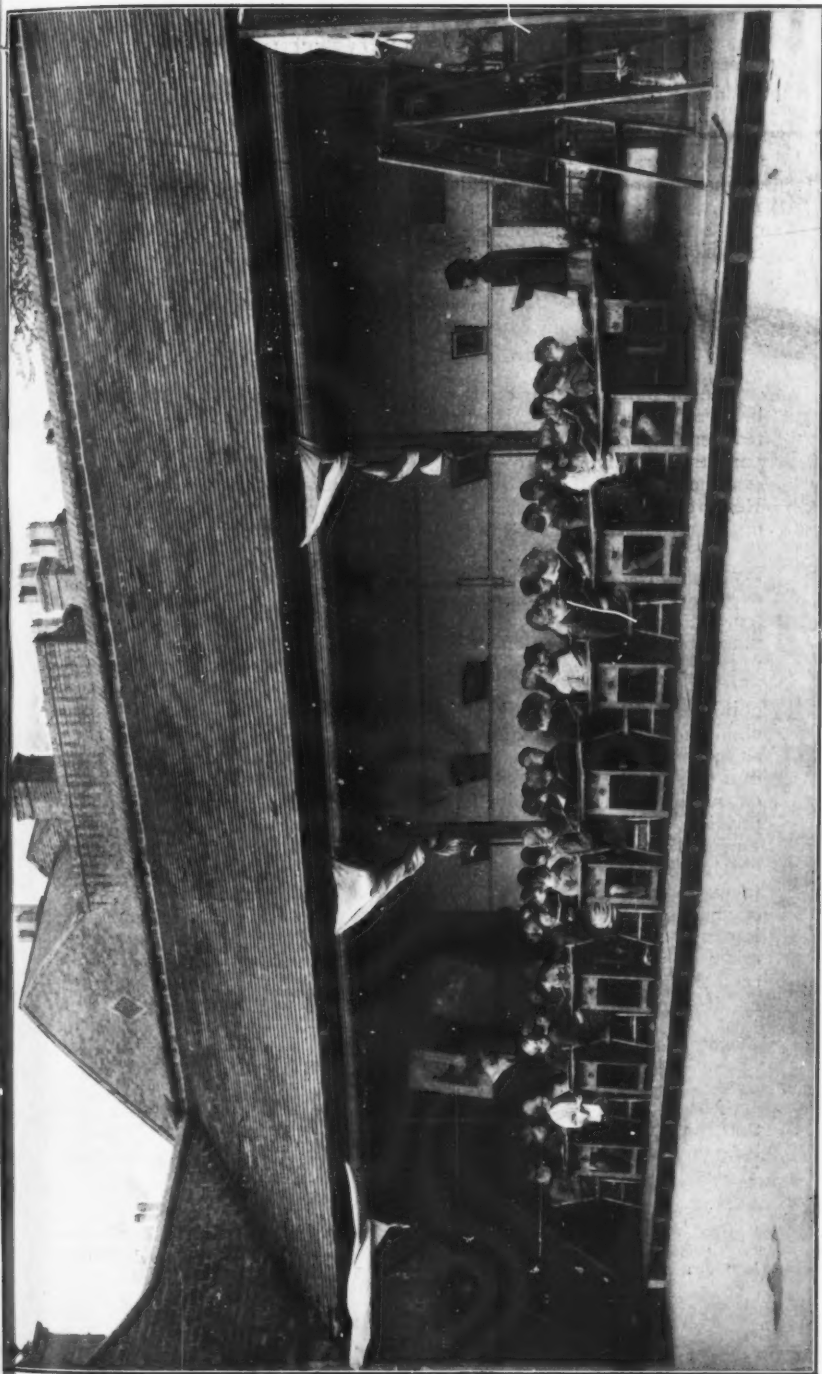
11. We find that for an average English working-class population more than twice as many exposed children die of tuberculosis within the first year of life as compared with the unexposed, the figures being 1.3 per cent. and .58 per cent., and that the percentage death-rate within the first five years of life for children who have lived from birth in contact with a parent with positive sputum is 2.6 per cent.

OPEN-AIR EDUCATION.

We have received the following interesting notes from Dr. A. A. E. Newth, Senior Medical Officer to the City of Nottingham Education Committee, to which body we are indebted for the loan of the blocks from which the accompanying illustrations have been prepared:

"Open-air schools cost money and take up space, and however enthusiastic school medical officers may be as to the benefits of fresh air, committees may fail to see the economy of pulling down old well-built schools simply because they were not built on open-air school lines. However, here and there much may be done on a small scale to establish open-air classrooms, and although the number of children benefited may be small, their value in educating the parent is immense. At Sycamore Road School, Nottingham, the Director of Education has, to the joy of the School Medical Officer, established an open-air classroom out of next to nothing. The playground shed has been fitted with shop blinds, a wooden floor has been put in, and low movable





THE SYCAMORE ROAD SCHOOL PLAYGROUND SHELTER, NOTTINGHAM, CONVERTED INTO OPEN-AIR CLASSROOM.

wooden screens have been provided. There is no heating apparatus—the children's skipping-ropes are called into frequent use in severe weather. The site is exceptionally favourable, being on the south slope of a rather steep hill. The children are not selected; they are ordinary elementary school children. The attendances from January 6, 1930, to March 28, 1930, for this classroom varied from 88 to 99 per cent. The average as compared with the remaining six classes taught indoors in the same school for this period were:

	<i>Average on Roll.</i>	<i>Average Attendance.</i>	<i>Percentage.</i>
Open-air class ...	44	42	95·4
Six classes indoors ...	276	253	91·6

"Although difficult to express statistically, the educational results are believed to be better in this classroom than in the ordinary school. The teachers are enthusiastic about it, the children love it, and even the parents themselves approve of it."

The Report of the Industrial Research Board of the Medical Research Council on Heating and Ventilation in Schools is a document of the greatest interest to all responsible for the hygienic management of schools and the welfare of children.¹ It deals with the methods of investigating the physiological effects of ventilation and heating, describes the effects produced by under-floor heating and stove heating, panel heating and protected gas-fire heating, and provides sections on manual dexterity in relation to hand temperatures, absenteeism in relation to type of school, and the temperatures observed in classrooms. Readers of this JOURNAL will be specially interested in the observations on children attending open-air schools. These indicate that even when children are acclimatized to cold their powers of resistance are lowered, as indicated by hand temperatures taken at frequent intervals by means of a thermopile. In the open-air schools investigated the children wore extra clothing, were provided with substantial meals, and in one school physical exercises were taken after each half-hour of sitting at work. During the midday interval, including dinner and the rest period, the children were well wrapped up. Clearly, unless proper precautions are taken and conditions in our changeable climate considered, children in open-air schools will suffer discomfort; their working efficiency will be impaired and their general well-being lessened unless adequate steps are taken to provide proper heating as well as ventilation. The whole report deserves fullest consideration by all responsible for the care of children in sanatoria and open-air schools.

NOTES AND RECORDS.

The Minister of Health recently stated in the House of Commons that the number of patients receiving residential treatment for tuberculosis under the approved schemes of local authorities in England and Wales on July 1, 1930, was 22,575. The number of those who, on the

¹ A Study of Heating and Ventilation in Schools." By H. M. Vernon and T. Bedford, assisted by E. G. Warner. Report No. 58 of the Industrial Health Research Board (formerly the Industrial Fatigue Research Board). Pp. iii + 72. London: H.M. Stationery Office. 1930. Price 2s. 6d.

same date, had been awaiting admission to residential institutions for more than ten days was 3,232.

We have received from the Austrian Legation in London, 18, Belgrave Square, S.W. 1, a copy of "The Austrian Year Book, 1930," edited by the Austrian Federal Press Department of the Federal Chancellory, and published by Manzschke Verlags- und Universitäts-Buchhandlung (price 4s. 6d.). With its 255 pages of text and maps, this admirable Year Book in English is a compendium of information which lovers of Austria will know how to appreciate. In the section on education is a list of Austrian universities. Particulars are also given regarding British and American societies in Vienna, including the American Medical Association of Vienna. This handbook is a necessity for everyone visiting Austria.

Additions have been made to the series of Reports on Public Health and Medical Subjects issued by the Ministry of Health: No. 58—"Report on a Study of the Naso-pharyngeal Bacterial Flora of a Group of the Manchester Population during the Period July, 1925, to September, 1927," carried out under the direction of Professor W. W. C. Topley, M.D., F.R.S. (price 6d.); and No. 59—"Report on Cancer of the Lip, Tongue, and Skin: An Analysis of the Literature from a Statistical Standpoint, with Special Reference to the Results of Treatment," by Janet E. Lane-Claypon, M.D., D.Sc. (price 2s.) The Ministry of Health has issued as Circular 1136 a "Memorandum on Cancer as a Subject for the Attention of Local Authorities."

The Weber-Parkes Prize and Medal, awarded every third year for work on the etiology, prevention, pathology, or treatment of tuberculosis has been awarded to Professor S. Lyle Cummins, C.B., C.M.G.

Many readers of this JOURNAL will be interested in the Scapa Society for Prevention of Disfigurement in Town and Country, the offices of which are at 71, Eccleston Square, Belgrave Road, Westminster, S.W. 1. Its objects are: (1) To protect the picturesque simplicity of rural and river scenery, and to promote a due regard for dignity and propriety of aspect in towns, with special reference to the abuses of spectacular advertising. (2) To assert generally the national importance of maintaining the elements of interest and beauty in out-of-door life. (3) To combat the nuisance caused by the scattering of litter. Lovers of an open-air life and the beauties of the countryside will be in full sympathy with these aims.

The American Review of Tuberculosis for April contained elaborate studies of (1) "Tuberculous Infection in Infancy," by J. A. Myers and W. M. Kernkamp; (2) "Tuberculous Infection in Childhood," by J. A. Myers; (3) "Tuberculosis among Girls and Boys in their Teens," by J. A. Myers and L. M. Kernkamp; (4) "Tuberculous Infection among Adults," by H. D. Lees and J. A. Myers; and (5) "The Significance of Tuberculosis among the Aged," by J. A. Myers and H. R. Anderson. A valuable bibliography accompanies each. These communications will be of exceptional service for reference.

No. 57 of the "Reports on Public Health and Medical Subjects," issued by the Ministry of Health, is "A Report on the Determination of Sucrose, Lactose, and Invert Sugar in Sweetened Condensed Milk," by G. W. Monier-Williams, O.B.E., M.C., M.A., Ph.D., F.I.C. (price 6d.).

The Bureau of Home Economics of the United States Depart-

ment of Agriculture has issued as No. 62 Publication in the Miscellaneous Series a 146-page "Bibliography on the Relation of Clothing to Health," prepared by Ruth O'Brien, Esther C. Peterson and Ruby K. Worner (price 25 cents). It contains references to English, French, and German books, and articles arranged under sectional headings and classified chronologically according to authors. The notes provided make this unique publication invaluable for reference.

The Caravan Club of Great Britain and Ireland, 28, Charing Cross Road, W.C. 2, has published a serviceable 24-page booklet "Caravan and Camp Cooking Recipes," by J. Harris Stone, M.A. (price 4d.). It contains suggestions for comfort and economy which will be appreciated by all those who use the road or pitch a tent.

The Twenty-Fifth Annual Report of the Executive Office of the American National Tuberculosis Association, prepared by Dr. Kendall Emerson, Managing Director, furnishes a condensed summary of the work of the N.T.A. of U.S.A. as directed from headquarters at 370, Seventh Avenue, New York City.

Messrs. Thomas Black and Sons, Ltd., Cathcart Street, Greenock, Scotland, the well-known firm of tent-makers and contractors to the Admiralty and War Office, have issued an illustrated catalogue of their various types of tents and camp equipment. Campers and others living an open-air life should secure a copy.

Messrs. W. H. Smith and Son, Ltd., Strand House, Portugal Street, W.C. 2, have issued a helpful "Postal Press Guide," giving a List of Annual Subscriptions to English and Foreign Newspapers and Periodicals. A copy will be sent free to any of our readers on application.

Part. III. of E. Merck's Annual Report issued in English from the firm's headquarters in Darmstadt contains particulars regarding tubercle vaccines and various new drugs which are being tried in the treatment of tuberculosis.

We have received a report for the year 1929 of the work of the Hellendoorn Sanatorium, Holland, made by the Director, Dr. B. H. Vos. The results are encouraging, and indicate that our Dutch confrères continue to find efficient sanatorium treatment their best weapon in the anti-tuberculosis campaign.

"Hygiene at the World Jamboree, 1929, at Birkenhead," by R. Wyse, M.B.E., M.A., M.D., Commissioner and Chairman of the Hygiene Sub-committee (Birkenhead: B. Haram and Co., Ltd., *Advertiser* Office, Hamilton Street), is an illustrated forty-five page booklet providing in concise practical notes information regarding sanitary matters which must be attended to in camp life. The plans and pictures are excellent.

Dr. T. T. B. Watson has met a real want by the issue of his "Instructions for Patients," published by H. K. Lewis and Co. These consist of a collection of twenty-five separate sheets, with a margin at the top of each for fixing in a loose-leaf folder. The adjacent blank sheet provides space for clinical notes, while the instructions are handed to the patient. (The price of each set is 1s. and folder 9d. each.)

The National Association for the Prevention of Tuberculosis, Tavistock House, North Tavistock Square, W.C., has recently issued several new educational booklets: "Milk and Tuberculosis," "Hints on the Management of Children up to Five Years of Age," and "Hints

on the Care of Children of School Age." These are supplied at reasonable rates for propaganda purposes: 12 for 1s.; 100 for 5s.; 1,000 for £1 15s., post free.

The London Caravan Co., 18-21, Dering Street, New Bond Street, W. 1, have issued an illustrated catalogue of the Eccles Caravans manufactured by the Eccles Motor Caravans, Ltd., Hazelwell Lane, Pershore Road, Stirchley, Birmingham. Caravans of the type described afford excellent facilities for suitable subjects desiring to live an open-air life and enjoy the delights and benefits of motor travel.

We have been favoured by the editorial department of the Anglo-Continental and International Offices (a member of the British Chamber of Commerce for Switzerland), with headquarters at 3, Boulevard de Grancy, Lausanne, Switzerland, and London offices at Kermann's Court, Cheapside, E.C. 2, with a series of publications which will be of special value to those interested in health and holiday resorts, and particularly to doctors and others having to advise patients in regard to spas, health stations, and educational establishments. "The Twentieth Century and Pleasure Resorts of Europe" (price 5s.) is a handsome volume giving detailed information regarding the chief features of continental resorts, hotels, and pensions in the chief touring districts, medical and balneological establishments, and schools for English and American boys and girls. There is a section dealing with sanatoria for the tuberculous. The independent traveller will find this work invaluable. The essential features of this large and impressive album have been condensed and issued as "The Traveller's Pocket Reference and Note-Book" (price 1s. 6d.). This little work is a serviceable companion volume for the pocket containing practical hints, schematic maps and information arranged in a convenient form regarding continental resorts for golf, bathing, mountaineering, tennis, winter sports, and other delights. There is also an up-to-date list of continental hotels, pensions, schools, and medical establishments, with suggestive and helpful notes and comments on ways and means for travel. Space is provided for the entry of the traveller's notes and comments, and the schematic maps form a specially praiseworthy feature. "Medical and Balneological Establishments, Sanatoria, and Cure Resorts" consists of Part IV. of the first-named publication, and is supplied on application, free of charge, to members of the medical profession.

"The Annual Charities Register and Digest" is now in its thirty-eighth edition and fully maintains its premier position as the guide and directory to charities serving the needs of the metropolis.¹ This invaluable reference work is so well known that it is unnecessary to say more than that the 1930 issue has been brought up-to-date, and in these days is more indispensable than ever. If the C.O.S. never accomplished anything more than the publication of this comprehensive work it would have abundantly justified its existence. The present volume contains a list of sanatoria and hospitals for tuberculous patients under the London County Council, together with references to other hospitals and dispensaries for consumption.

¹ "The Annual Charities Register and Digest, being a Classified Register of Charities in or Available for the Metropolis." Thirty-eighth edition. Pp. 31 + viii + 567. London: Longmans, Green and Co., Ltd., 39, Paternoster Row, E.C. 4, and the Charity Organization Society, Denison House, 296, Vauxhall Bridge Road, S.W. 1930. Price 8s. 6d.

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